

✓ 12/1/92
K.V.

Contra Costa County

General Plan

1990-2005

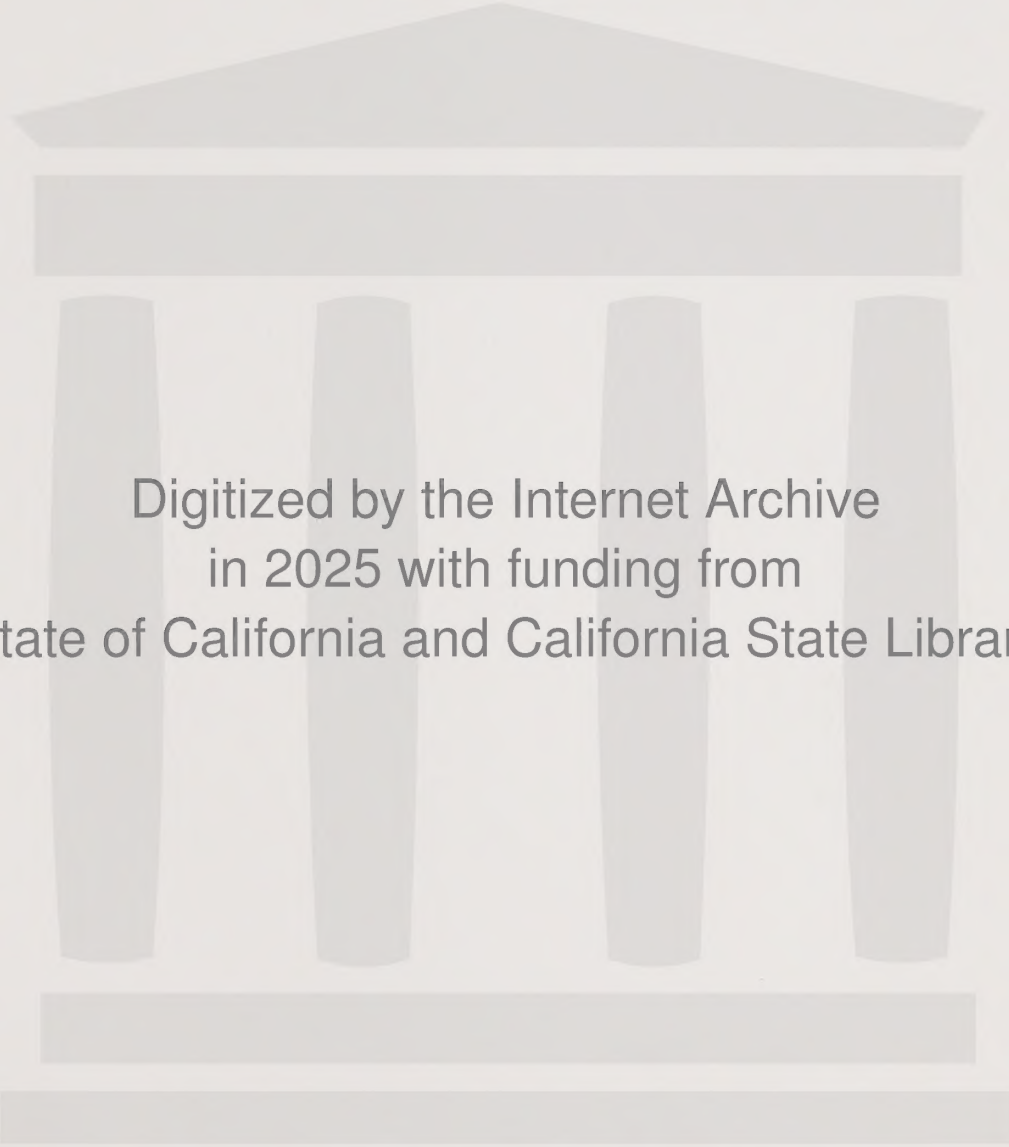


INSTITUTE OF GOVERNMENTAL
STUDIES LIBRARY

OCT 26 1992

UNIVERSITY OF CALIFORNIA

January 1991



Digitized by the Internet Archive
in 2025 with funding from
State of California and California State Library

<https://archive.org/details/C124902157>

Contra Costa County

General Plan

1990-2005



January 1991

ACKNOWLEDGEMENTS

CONTRA COSTA COUNTY

GENERAL PLAN

1990 - 2005

January 1991

Contra Costa County
Community Development Department
651 Pine Street
Martinez, CA 94553
(415) 646-2035
FAX (415) 646-1309

ACKNOWLEDGEMENTS

CONTRA COSTA COUNTY BOARD OF SUPERVISORS

Tom Powers, Chair
Nancy C. Fahden, District II
Robert I. Schroeder, District III

Tom Torlakson, District V
Sunne W. McPeak, District IV

MEMBERS OF THE PLANNING CONGRESS

City Representatives

Mary Rocha, Antioch
Bruce Ghiselli, Brentwood
James Parsons, Clayton
Ward Pynn, Concord
Mildred Greenberg, Danville

John Connors, Moraga
Lily Regelson, Orinda
Roy Swearingon, Pinole
Lillian Pride, Pittsburg
Sherry Sterrett, Pleasant Hill

Anna Howe, El Cerrito
Charles Collins, Hercules
Donald Tatzin, Lafayette
Richard Bruno, Martinez

Ken Stein, Richmond
Robert Blohm, San Pablo
Mary Lou Oliver, San Ramon
Ed Skoog, Walnut Creek

County Representatives

Tom Powers, District I
Nancy Fahden, District II
Robert Schroeder, District III
Sunne McPeak, District IV
Tom Torlakson, District V

Jeffrey Bradley, District I
Janet Callaghan, District II
Hal Olson, District II
Dan Coleman, District III
Louise Aiello, District IV

Enrico Cinquini, District V
Leslie Davis, District V
Larry Regan, Alamo

Members of the Planning Congress (Continued)

Organization Representatives

Kathleen Nimr, Citizens for Public
Interest Planning

Bob Doyle, Save Mt. Diablo

Kent Fickett, Mt. Diablo Audubon Society

Michele Perrault, Sierra Club

Eric Hasseltine, Contra Costa Council

John Moore, Building Industry Assoc.

Gary Gibbs, Coalition of Business and Labor

Ray Trujillo, Building and Construction
Trades Council

Richard Frainier, Industrial Assoc.

David Wahl, Fire Chiefs Assoc.

Parke Boneysteele, Sanitary Districts

Beverly Lane, Transit Districts

Kay Petersen, E. Bay Regional Park Dist.

Betty Croly, Alameda County

Rudy Wilson, West CC Board of Realtors

Darlyne Houk, CC Board of Realtors

Frank Maggiore, Agriculturalist

John B. Mass, Ag. Resources Adv. Comm.

Mike Gleason, Greenbelt Congress

Judy Garvens, League of Women Voters

Byron Campbell, Citizens for a Better CC

Virginia Turner, American Assoc. of
University Women

Richard McPeak, Central Labor Council

John Ginochio, CCC Farm Bureau

Jeff Wiedemann, Cattlemen's Assoc.

Rick Fleming, Chambers of Commerce

Jose Tarango, Council of Richmond Indus.

Richard Kolm, EBMUD

Don Freitas, CC Water District

Tom Cook, Bay Area Council

Tony Souza, Citizens Land Alliance

Supervisor Sam Caddle, Solano County

Dorothy Elsensius, Mobile Home Adv. Comm

Rachel Baldocci, East CC Bd. of Realtors

Alfred Courchesne, Ag. Resources Adv. Co.

GENERAL PLAN REVISION CONSULTANTS

Community Development Department

Harvey Bragdon, Director

Jim Cutler, Chief of

Comprehensive Planning

Steve Goetz, Senior Transportation Planner

Sue Warden, Graphics Technician

Randal Schoesler, Word Process Operator

Dennis Barry, Program Manager

General Plan Review

Eric Parfrey, Senior Planner

Todd Nelson, Senior Planning Geologist

Matt Tomas, Senior Planner

Janet Anderson, Senior Housing Planner

EIP Associates

Stuart During, Project Manager

Michele Mayerson, Assistant Project Manager

Ingird Lantz

Alan Forrest

Jennifer Toth

Gordon Becker

Cindy Danis

Tim Stroshane

Alan Lyons

Jill Simonsen

Charles M. Salter Associates, Inc.

Alan Rosen

DKS Associates

Jeff Buxbaum

Damien Stefanakis

Economic Planning Systems

Walter Keiser

1	INTRODUCTION	1.1
2	PLANNING FRAMEWORK	2.1
3	LAND USE ELEMENT	3.1
4	GROWTH MANAGEMENT ELEMENT	4.1
5	TRANSPORTATION AND CIRCULATION ELEMENT	5.1
6	HOUSING ELEMENT	6.1
7	PUBLIC FACILITIES/RECREATION ELEMENT	7.1
8	CONSERVATION ELEMENT	8.1
9	TRANSPORT ELEMENT	9.1
10	SAFETY ELEMENT	10.1
11	NOISE ELEMENT	11.1
12	CLIMATE AND AIR QUALITY	12.1

TABLE OF CONTENTS

NOTE: Please refer to the detailed table of contents that begins each chapter.

	<u>Page</u>
1. INTRODUCTION	1-1
2. PLANNING FRAMEWORK	2-1
3. LAND USE ELEMENT	3-1
4. GROWTH MANAGEMENT ELEMENT	4-1
5. TRANSPORTATION AND CIRCULATION ELEMENT	5-1
6. HOUSING ELEMENT	6-1
7. PUBLIC FACILITIES/SERVICES ELEMENT	7-1
8. CONSERVATION ELEMENT	8-1
9. OPEN SPACE ELEMENT	9-1
10. SAFETY ELEMENT	10-1
11. NOISE ELEMENT	11-1
12. GLOSSARY AND ABBREVIATIONS	12-1

LIST OF TABLES

		<u>Page</u>
Table 2-1	Demographic Summary for Contra Costa County (1980-1990)	2-17
Table 2-2	Employment Growth in Contra Costa County by Subarea (1980-1990)	2-18
Table 2-3	Employment Growth by Industrial Sector	2-20
Table 3-1	Contra Costa County Existing Land Use (1990)	3-7
Table 3-2	Contra Costa County Demographic Projections	3-13
Table 3-3	Contra Costa County Estimates of Urban Limit Line in Relation to 65/35 Land Preservation Standard	3-18
Table 3-4	Summary of General Plan Land Use Designations	3-23
Table 3-5	Consistency Between the General Plan and the Zoning Ordinance	3-24
Table 4-1	Growth Management Performance Standards	4-7
Table 5-1	Major Roadway and Transit Improvements	5-19
Table 5-2	Year 2005 Demand of Park-and-Ride Lot Spaces	5-23
Table 6-1	1985 Quantified Objectives	6-6
Table 6-2	Contra Costa County Housing Program Major Accomplishments, 1985-1990	6-7
Table 6-3	Distribution Of 1985 Projected Housing Needs (By Income)	6-12
Table 6-4	Distribution Of 1985 Projected Housing Needs (By Tenure)	6-12
Table 6-5	Contra Costa County New Affordable Housing Production, Assistance And Rehabilitation (1985-1990)	6-13
Table 6-6	Existing & Projected Housing Needs, Contra Costa County And Cities, 1988-1995	6-22
Table 6-7	Existing And Averaged Income Percentages, Bay Area, County And Unincorporated Areas	6-22
Table 6-8	Projected Housing Need By Income Category Contra Costa County And Cities	6-24
Table 6-9	Projected Housing Need by Tenure	6-25
Table 6-10	Projected Housing Need by Purchase Price and Rental Cost	6-25
Table 6-11	Statistical Profile Of Contra Costa County	6-31

		<u>Page</u>
Table 6-12	1990 Median Income Levels	6-33
Table 6-13	Facilities Available To Serve Homeless Populations In Contra Costa County (June 1990)	6-56
Table 6-14	County Assisted Emergency Shelter And Transitional Housing Facilities For Homeless Populations (May 1990)	6-62
Table 6-15	Zone Districts Permitting Emergency Shelter Facilities In County Unincorporated Areas	6-64
Table 6-16	Vacant and Undeveloped Residential Sites in Unincorporated Contra Costa County	6-66
Table 6-17	1990 Quantified Objectives By Number Of Units (1990-1995)	6-115
Table 6-18	Contra Costa County Housing Program (1990-1995)	6-118
Table 7-1	Relationship of Fire Protection Agencies to Contra Costa County	7-42
Table 7-2	Contra Costa Fire Protection and Suppression Services by Fire Protection Area	7-43
Table 8-1	Inventory of Significant Ecological Resource Areas in Contra Costa County	8-6
Table 8-2	Protected and/or Uncommon Plant and Animal Species of Contra Costa County	8-12
Table 8-3	Change in Agricultural Acreage By Type Of Activity in Contra Costa County (1940-1988)	8-35
Table 8-4	Gross Receipts of Agricultural Products	8-36
Table 8-5	Inventory of Air Pollutant Emissions for Contra Costa County	8-80
Table 9-1	County Park Criteria	9-24
Table 10-1	Earthquake Size Descriptions	10-6
Table 10-2	Geologic Time Scale and Generalized Stratigraphic Section and Lithologic Characteristics	10-9
Table 10-3	Available Data on Inferred Active Faults Affecting Contra Costa County	10-15
Table 10-4	Approximate Probability of Occurrence of Earthquakes on Selected Bay Area Faults (50 Year Period)	10-20
Table 10-5	Estimated Maximum Parameters for Known Faults Affecting Contra Costa County	10-21
Table 10-6	Scale of Acceptable Risks	10-30
Table 11-1	Relationship of Noise Element to Other GP Elements	11-3
Table 11-2	Existing Noise Levels From Industrial Sources	11-13
Table 11-3	Future Noise Levels Along Freeways and Major Arterials	11-38

LIST OF FIGURES

	<u>Page</u>
Figure 2-1 Sub-Areas of Contra Costa County	2-3
Figure 2-2 City Jurisdiction, Sphere of Influence and Planning Area Relationships	2-10
Figure 2-3 City Spheres of Influence	2-11
Figure 3-1 Urban Limit Line	3-19
Figure 3-2 Unincorporated Communities with Adopted Area Policies	3-67
Figure 3-3 Oak Road Parcel Assembly Areas	3-69
Figure 3-4 Briones Hills Agricultural Preservation Area	3-72
Figure 3-5 Appian Way Corridor Special Concern Area	3-81
Figure 3-6 San Pablo Dam Road Commercial Special Concern Area	3-82
Figure 3-7 San Pablo Ridge Special Concern Area	3-83
Figure 4-1 Flow Chart of Growth Management Process	4-8
Figure 4-2 Level of Service Designations For Unincorporated Areas	4-9
Figure 5-1 East Bay Regional Transportation System	5-5
Figure 5-2 Roadway Network Plan	5-15
Figure 5-3 Transit Network Plan	5-17
Figure 5-4 Scenic Routes Plan	5-33
Figure 5-5 Buchanan Field Safety Element Map	5-41
Figure 6-1 Sub-Areas of Contra Costa County	6-29
Figure 6-2 Vacant and Undeveloped Residential Sites in Unincorporated Contra Costa County	6-79
Figure 6-3 Vacant and Undeveloped Residential Sites in Unincorporated Contra Costa County – West County Area Map	6-81
Figure 6-4 Vacant and Undeveloped Residential Sites in Unincorporated Contra Costa County – Martinez Area Map	6-82
Figure 6-5 Vacant and Undeveloped Residential Sites in Unincorporated Contra Costa County – Walnut Creek-Alamo Area Map	6-83
Figure 6-6 Vacant and Undeveloped Residential Sites in Unincorporated Contra Costa County – Oakley Area Map	6-84
Figure 7-1 Water Services Districts	7-9
Figure 7-2 Areas of Identified High Nitrate Concentrations	7-14
Figure 7-3 Sewer Service Districts	7-19

	<u>Page</u>
Figure 7-4	Areas of Identified Septic Tank and Leachfield Constraints 7-25
Figure 7-5	Areas of Drainage Plans 7-33
Figure 7-6	Fire Protection Facilities 7-47
Figure 7-7	Solid Waste Processing and Disposal Facilities 7-55
Figure 7-8	Hazardous Waste Facilities 7-65
Figure 7-9	Public School Locations 7-75
Figure 7-10	Public Building Locations 7-81
Figure 8-1	Significant Ecological Areas and Selected Locations of Protected Wildlife and Plant Species Areas 8-23
Figure 8-2	Important Agricultural Lands 8-27
Figure 8-3	Wind Energy Resource Area 8-52
Figure 8-4	Mineral Resource Areas 8-55
Figure 8-5	Soils Resource Areas 8-61
Figure 8-6	Air Quality 8-83
Figure 9-1	Scenic Ridges and Waterways 9-9
Figure 9-2	Archaeological Sensitivity Map 9-15
Figure 9-3	Major Parks and Open Space Areas 9-21
Figure 9-4	Local Parks 9-27
Figure 9-5	Bicycle Trails 9-29
Figure 9-6	Hiking Trails 9-31
Figure 9-7	Riding (Equestrian) Trails 9-35
Figure 10-1	Generalized Geology of Contra Costa County 10-7
Figure 10-2	Mapped Earthquake Faults 10-13
Figure 10-3	Earthquake Locations in Contra Costa County (1934-1980) 10-17
Figure 10-4	Estimated Seismic Ground Response 10-23
Figure 10-5	Estimated Liquefaction Potential 10-27
Figure 10-6	Geological (Landslide) Hazards 10-41
Figure 10-7	Slope Areas Over 26% 10-43
Figure 10-8	Flood Hazard Areas 10-51
Figure 10-9a	Hazardous Land Uses 10-57
Figure 10-9b	Hazardous Land Uses 10-59
Figure 10-10	Fire Hazard Areas 10-73
Figure 11-1	Range of Sound Spectra 11-7
Figure 11-2	A-Weighting Network 11-7
Figure 11-3	Typical Sound Levels Measured in the Environment and Industry 11-8
Figure 11-4	Hourly Noise Levels and Annual Metrics 11-10
Figure 11-5	Noise Contours 11-16
Figure 11-6	Land Use Compatibility for Community Noise Environments 11-43

1. INTRODUCTION

TABLE OF CONTENTS

	<u>Page</u>
1.1 PURPOSE	1-1
1.2 PUBLIC PARTICIPATION IN GENERAL PLAN PROCESS	1-1
1.3 PUBLIC PARTICIPATION THROUGH VOTING PROCESS	1-3
1.4 LEGAL AUTHORITY	1-4
1.5 COMPONENTS OF THE GENERAL PLAN	1-5
Internal Consistency	1-7
1.6 DEFINITION OF MAPS, GOALS, POLICIES, AND IMPLEMENTATION MEASURES	1-7
General Plan Diagrams (Maps)	1-7
Goals	1-8
Policies	1-8
Implementation Measures	1-9
1.7 THE DIFFERENCE BETWEEN ZONING AND GENERAL PLAN DESIGNATIONS	1-10
1.8 HOW TO USE THE GENERAL PLAN	1-10
1.9 THE GENERAL PLAN AMENDMENT PROCESS	1-12
1.10 TEXT OF MEASURE C - 1988 AND MEASURE C - 1990	1-13

1. INTRODUCTION

1.1 PURPOSE

The purpose of the Contra Costa County General Plan is to express the broad goals and policies, and specific implementation measures, which will guide decisions on future growth, development, and the conservation of resources through the year 2005. The goals, policies and implementation programs contained in the General Plan represent the hopes and concerns of the residents of the County in terms of defining and preserving a "quality of life." The various elements or chapters of the plan are intended to provide objectives, principles and standards to decision-making bodies in the County, as well as numerous other public agencies, that will be making decisions about the development of private and public lands and the locations and extent of infrastructure improvements such as sewers and roadways.

Although a General Plan is primarily concerned with the physical development of property, the consequences of a plan's growth policies also impact the social fabric of a community. For example, if a General Plan allows the development of an industrial or business park in a specific location, more jobs may eventually become available to local residents. Similarly, if a plan designates a park or other public facility, or if a program encourages the construction of affordable housing, the policy will have a social and economic impact upon the quality of life in those affected locations.

1.2 PUBLIC PARTICIPATION IN GENERAL PLAN PROCESS

Preparation of this General Plan involved a unique and extensive process of public participation and outreach. In early 1986, the County Board of Supervisors established a General Plan Congress to advise the County staff on how to revise the County's General Plan. The 67-member General Plan Congress represented a broad range of interests in the County, including the City Councils from each of the 18 cities in the County, County service districts, environmental groups,

landowners, developers, and public interest groups including the League of Women Voters, Citizens for a Better Contra Costa, Sierra Club, Audubon Society, and the Greenbelt Alliance.

The General Plan Congress met monthly from July 1986 through January 1989. In addition, each Congress member sat on one of three subcommittees: Agriculture and Open Space, Infrastructure and Jobs/Housing Balance. These subcommittees met on a weekly or biweekly basis to take public comment, debate important issues and develop reports and position papers for the entire Congress. The subcommittees kept lists of the public attendance at the meetings, and advised those attendees of the meeting times by mail.

With the help of the General Plan Congress, the County prepared a draft General Plan in November 1988. After recommending additional changes to that draft, the Congress voted to pass the draft General Plan onto the Community Development Department staff and Planning Commission without recommendation, and to disband.

In March 1989, the County made available for public review and hearing a draft of the General Plan. Between March 1989 and August 1990, the County Board of Supervisors held numerous public hearings and received extensive written comments on the March 1989 draft. All segments of the Contra Costa County population participated in that public comment period, including representatives of ranchers, developers, farmers, environmentalists, labor groups, cities, special districts, business and industrial associations.

In response to the public comments received, the County then prepared a revised and updated draft of the General Plan, which was made available for additional public comment and review in October 1990. Between October and December 1990, the County Planning Commission and Board of Supervisors held additional public hearings on the October 1990 draft. As a result of those comments and the passage on November 6, 1990 of Measure C, the 65/35 Contra Costa County Land Preservation Plan (described below), the County again revised the document, resulting in this final General Plan.

1.3 PUBLIC PARTICIPATION THROUGH VOTING PROCESS

In addition to the extensive public participation and input process through which this General Plan evolved, the voters of the County also influenced various aspects of this General Plan through the referendum process. Two initiative measures in particular have and will continue to impact the physical development of the County during the horizon of this General Plan. These two measures, "the Revised Contra Costa Transportation Improvement and Growth Management Program" adopted on August 3, 1988 ("Measure C 1988"), and "The 65/35 Contra Costa County Land Preservation Plan" adopted on November 6, 1990 ("Measure C - 1990"), expressed voters' concerns, goals, and principles relating to a vision of long-term growth in Contra Costa County.

The policies and principles expressed by the voters in Measure C - 1988 and Measure C - 1990 have guided the evolution of most of the elements of this General Plan. Generally speaking, these two measures guided the preparation and completion of this General Plan in such areas as growth management, land use, transportation and circulation, housing, public facilities and services, and conservation and open space issues. To underscore the importance these measures have had on the General Plan process culminating in the adoption of this General Plan and in the interest of making this constitution of land use document more meaningful for the public, the text of Measure C - 1988 and Measure C - 1990 is set forth in its entirety in Section 1.10 of this Introduction section. Where appropriate or required, provisions of these two measures have been integrated throughout the various elements of this General Plan.

The approval by the voters of Measure C - 1988 in 1988 was a major factor in the creation and establishment of the scope of the Growth Management Element found in this General Plan. Measure C - 1988 requires that the County and other jurisdictions must adopt a Growth Management Element in accordance with various terms of the measure in order to receive local street maintenance and improvement funds. The influence of Measure C - 1988 is reflected throughout this General Plan since the Growth Management Element has necessarily been correlated with the other elements in this General Plan.

In addition to responsibly listening and responding to the concerns and hopes of the public expressed through the General Plan Congress, including thousands of hours of public meetings and hearings, the Board of Supervisors placed Measure C - 1990 on the ballot prior to the completion

of this comprehensive General Plan process. Through this initiative measure, the voters affirmed key policies concerning open space and agricultural preservation, creation of an Urban Limit Line, protection of open hillsides and significant ridge lines, growth management, affordable housing and other issues which the County had been preparing to adopt as part of its General Plan. The success of this measure evidenced the broad support for these policies. In addition, as part of this successful Board of Supervisors' initiated measure, the voters approved a 65/35 land preservation standard which limits urban development in the County to no more than 35 percent of the land in the County and requires that at least 65 percent of all land in the County be preserved for agriculture, open space, wetlands, parks and other non-urban uses. Following this mandate of the voters, the Board proceeded to reflect the Measure C - 1990 policy in this General Plan.

1.4 LEGAL AUTHORITY

State law, specifically Sections 65300 through 65403 of the California Government Code, mandates that all cities and counties prepare and adopt a comprehensive, long-term, and internally consistent General Plan to guide the future physical development of their jurisdictions. According to recent court decisions clarifying the intent of the State legislation, the role of each community's General Plan is to act as a "charter" for development; it is the foundation upon which all land use decisions are to be based.

At one time, local General Plans were looked upon as a set of broad policies that had small roles in development decisions. However, changes in State law since the original statutes were adopted in the 1950s have vastly boosted the importance of the General Plan in local decision-making. A General Plan must now provide more concrete direction for land use and facility approvals, while providing flexibility for balancing necessarily competing goals and policies.

State law requires that once a local government has adopted its General Plan, local officials must implement it. The Government Code provides general direction to the planning agency for implementing the overall plan, but requires that more specific implementation programs be adopted for some of the individual portions of the plan, such as the Housing and Open Space Elements. The most commonly recognized form of implementation is the zoning ordinance, which specifies exact development standards (types of uses allowed, building heights and setbacks, etc.) for the various zones or districts within a jurisdiction.

Accordingly, State law requires that the zoning and subdivision ordinances for almost all jurisdictions in California must be consistent with the adopted General Plan (Section 65860). In addition, the following city or county land use approvals must be consistent with its General Plan: all subdivisions, rezonings, specific plans, capital improvement programs, redevelopment plans, development agreements, park dedication ordinances, agricultural preserve contracts, housing authority projects, local coastal plans, and several other specific approvals. Although not specifically required by State statute, a 1984 Appellate Court decision also held that the approval of all use permit applications must be consistent with the local General Plan. Thus, recent State legislation and court decisions effectively make most implementing ordinances used by local jurisdictions in day-to-day land use decision-making subservient, or secondary, to General Plan policies and maps.

1.5 COMPONENTS OF THE GENERAL PLAN

California statutes require that all cities and counties prepare and adopt a General Plan that contains the following seven mandatory "Elements" or subject categories:

Land Use Element. This Element describes the general distribution and intensity of uses of land for housing, business, industry, open space, public facilities, etc., with accompanying maps.

Circulation Element. This Element identifies the location and extent of existing and proposed streets, arterials, highways, transportation routes and terminals, and other related facilities.

Housing Element. This Element contains a comprehensive assessment of current and projected housing needs for all segments of the community, a list of policies to meet the needs, and an inventory of specific action programs to implement the policies.

Conservation Element. This Element addresses the conservation, development, and use of natural resources such as water, forests, soils, rivers, and mineral deposits.

Open Space Element. This Element details plans and measures for preserving open space areas in order to manage the production of resources, to provide outdoor recreation, to preserve the public health and safety, and to identify important agricultural lands.

Safety Element. This Element establishes policies and programs to protect the community from risks associated with seismic, geologic, flooding, wildfire, and other hazards.

Noise Element. This Element identifies noise problems in the jurisdiction; defines standards and mitigation measures; and provides coordination with land use policies.

The degree of detail to which each issue is discussed in the plan depends upon local conditions and its relative perceived importance. In addition to the seven element categories listed above, State law encourages local jurisdictions to prepare and adopt any other elements or address any other issues germane to the jurisdiction's physical development.

The Contra Costa County General Plan includes the seven mandated elements. The plan also includes two optional elements, namely, a Public Facilities and Services Element and a Growth Management Element. For ease of discussion, the Public Facilities Element contains some of the mandatory components of the other statutory elements. The plan is organized as follows:

- Chapter 1: Introduction
- Chapter 2: Planning Framework
- Chapter 3: Land Use Element
(Includes all Countywide land use goals, policies, and implementation measures, as well as more detailed land use policies applied to specific unincorporated areas. As referenced in the Land Use Element, many of the remaining required components of this Element are contained in the Public Facilities/Services Element.)
- Chapter 4: Growth Management Element
(Includes a Growth Management Program and policies from Measure C-1988.)
- Chapter 5: Transportation and Circulation Element
(Includes goals and policies regarding major thoroughfares, railroad and transit routes, terminals, and other local public transportation systems.)
- Chapter 6: Housing Element
(Includes goals and policies regarding programs, improvements, development and preservation of housing needs to meet all economic sectors of the community.)
- Chapter 7: Public Facilities/Services Element
(Includes policies regarding water and sewer service; flood control; landfills; public buildings; police and fire protection; solid and hazardous waste management; schools; childcare; and other public facilities.)
- Chapter 8: Open Space Element
(Includes overall goals and policies for the County, as well as policies regarding scenic resources; historic/cultural resources; the 65/35 preservation standard and parks and recreation.)

- Chapter 9: Conservation Element**
(Includes overall goals and policies for the County, as well as policies regarding vegetation and wildlife; agricultural resources; renewable energy resources; mineral, soil, and oil and gas resources; water resources; harbors; and air resources.)
- Chapter 10: Safety Element**
(Includes goals and policies regarding the protection of the community from seismic and geological hazards and other natural disasters.)
- Chapter 11: Noise Element**
(Includes goals and policies regarding noise levels and sources that are used in setting land use policies and for developing and enforcing a local noise ordinance.)

INTERNAL CONSISTENCY

State planning law requires that all parts of the General Plan comprise an integrated, internally consistent and compatible statement of policies. These standards imply that: 1) all elements of the General Plan have equal legal status; 2) all goals, objectives, policies, principles, standards and plan proposals in the General Plan must be internally consistent; and 3) any implementation programs set out in the plan must follow logically from the plan's goals and policies. Hence, each chapter of the General Plan clearly states its legal authority, relationship to other elements, relationship to other General Plan documents, and its organization.

1.6 DEFINITION OF MAPS, GOALS, POLICIES, AND IMPLEMENTATION MEASURES

The California Government Code states that "the General Plan shall consist of a statement of development policies and shall include a diagram or diagrams and text setting forth objectives, principles, standards, and plan proposals" (Section 65302). The purpose of this section is to define these terms in the context of this General Plan.

GENERAL PLAN DIAGRAMS (MAPS)

The diagrams that are required in a General Plan under the State law have been defined as graphic expressions of the plan's development policies. However, there is a debate among planners and lawyers alike about how detailed or general the maps (and text) should be in a General Plan. The diagrams or maps in a General Plan need not be as detailed as other regulatory maps, such

as zoning maps, but they should be detailed enough so that the users of the plan, after reviewing all other pertinent maps and portions of this plan, can reach the same general conclusion regarding the appropriate use of any parcel of land at a particular phase of a city's or county's physical development.

In many instances, a specific parcel may be located in more than one General Plan land use designation, since these designations tend to follow natural features of the land, which are not always contiguous with property lines. For a large vacant parcel, the hilly, unbuildable portion of the site may be designated for open space uses, while the flat areas may be designated for housing or commercial uses. Similarly, portions of parcels may be located in or outside the Urban Limit Line.

Decision makers should be able to use the General Plan, including its diagrams or maps, in coordinating day-to-day land use and infrastructure decisions. At the same time, given the long-range nature of a General Plan, its text and maps should be general enough to allow a degree of flexibility in decision making as conditions change. For example, a General Plan may recognize the need and desirability of a community park in a proposed residential area, but the precise location of the park may not be known when the plan is adopted. The plan does not need to pinpoint the location, but it should include a generalized designation on the diagram showing the general location, along with policies indicating that the park site will be selected and reserved when the area is developed.¹

GOALS

A goal statement sets the direction for more specific policies and implementation programs. A goal is an ideal future end, condition, or state which is related to the public health, safety, or general welfare toward which planning measures are directed. A goal is a general expression of community values and, therefore, is abstract. Consequently, a goal is generally not quantifiable, time dependent or suggestive of specific actions for its achievement.²

POLICIES

A policy is a specific statement intended to guide decision making. Policies are based upon General Plan goals and are arrived at through planning experience, studies, and an interpretation

of the best available data and information at a particular point in time. Decisions as to whether a particular action, program or project is consistent with this General Plan will consider whether all aspects of a future action will further the objectives and policies of this General Plan without obstructing the attainment of these policies. Policies in this General Plan appropriately strike a balance between clarity for guiding decision makers and a framework for comprehensively weighing necessarily competing policies in a county as diverse as Contra Costa County. The policies expressed in this General Plan are intended to be part of an integrated document encompassing concerns which are both compatible and competing, and it is inappropriate to assess consistency of a singular policy without reference to this framework. As a constitution-type document, the policies in this General Plan are intended to guide decision makers through this difficult balancing process. At the General Plan level, policies are not static as ironclad regulations. The policies expressed in this General Plan were based on the best available information at the time the Plan was prepared. New and better information will necessarily be presented to the decision makers during the life of this Plan, therefore requiring that, as an evolutionary document, the policies expressed in this General Plan will be evaluated in light of this new and better information and, where necessary, policies will be updated.

While cautioning the reader of this General Plan document against myopically focusing on a particular policy without reference to its harmonized context, it is important that certain of these guiding policies be expressed with stronger levels of commitment than others. When considering policies in this General Plan, the use of the word "shall" indicates more directive than the use of the word "should." While there are occasions where a proper balancing of the hundreds of policies contained in this document, when viewed as an integrated whole, would not warrant strict adherence to a particular policy, the level of compelling or countervailing policies would appropriately be less to offset competing policies using the word "should," than to offset a policy or policies using the word "shall."

IMPLEMENTATION MEASURES

An implementation measure is a specific action, procedure, program, or technique that carries out a General Plan policy. The most obvious example of an implementation measure is a jurisdiction's zoning ordinance. Often, implementation measures cited in a General Plan will consist of a list of specific programs that should be carried out after the plan is adopted. When a plan is updated,

a careful review of the list of previously adopted implementation measures can indicate how realistic and effective the plan has been during the previous years.

1.7 THE DIFFERENCE BETWEEN ZONING AND GENERAL PLAN DESIGNATIONS

One of the most common misunderstandings about General Plans in California is their relationship to adopted zoning ordinances. As the previous discussion has already indicated, zoning is the implementation of a General Plan and it must be consistent with General Plan policies and land use designations for specific properties. In simple language, this means that zoning is secondary or subservient to the General Plan; in the event of a conflict, the General Plan is followed.

Unfortunately, due to staffing limitations and community opposition, a zoning ordinance will often not be revised to be made consistent with the new General Plan (or General Plan Amendment (GPA)), which causes confusion to members of the public for years to come.

Thus, it is vitally important that a program to begin the systematic review and revision of zoning and other ordinances be undertaken by staff immediately after the adoption of a General Plan. This action will ensure that the ordinances governing day-to-day land use decisions do not conflict with newly adopted plan policies.

1.8 HOW TO USE THE GENERAL PLAN

The General Plan includes maps in each Element, as well as accompanying text that lays out goals, policies, and implementation measures grouped around specific issues. Thus, if a property owner or other member of the public wants to know what General Plan policies might apply to a specific property, he or she can begin by examining the Land Use Element map to determine what land use designation is applied to the property (e.g., "Single Family Residential-Low Density," "Commercial," etc.).

The owner should use the land use map in conjunction with the other maps within the plan (e.g., the flooding and seismic hazard maps), as well as note the interplay with other element's specific written goals, policies, and implementation measures (e.g., growth management), to determine whether a development proposal for a particular site is fully consistent with the County General Plan.

As an example only, the property owner would follow the steps outlined below to find the maps and policy language in the Land Use and other General Plan Elements which could affect development or redevelopment of the property:

- 1) Examine the Land Use Element map to determine the land use designation for the property and the location of the Urban Limit Line;
- 2) Check the maps and text in the other General Plan Elements, especially the Open Space, Conservation and Safety Elements, to see if the property is located within or adjacent to some type of resource or hazard area (e.g., a "significant ecological resources area," a flood hazard area, an area of high liquefaction potential, etc.) or has slopes over 26 percent grade subject to hillside protection policies;
- 3) Read the general goals and policies in the Land Use Element, the provisions of the County's Growth Management Program (Chapter 4), and other relevant Elements as cross-referenced in each Chapter's subheading "Relationship to other General Plan Elements," to determine how they might affect development or redevelopment of the area in which the property is located;
- 4) Check Chapter 3 to determine if any detailed policies or development standards apply to the area in which the property is located (e.g., if the property is located in Crockett, read the section entitled "Policies for the Crockett Area"); and
- 5) If the property is located in a rural area, check whether public facilities such as water or sewer serve the area and read the relevant parts of the Public Facilities/Services Element.
- 6) Check the general goals and policies in the Land Use Elements and the Open Space Element to understand the potential limitations presented by the 65/35 Land Preservation Standard.

Note that the above sequence of examination is an example of what may be the bare minimum that should be followed and is probably not sufficient in many instances. Depending on the specific location or characteristic of the area or property, several other steps should be added so that other portions of the General Plan are consulted. For example, if the property is located adjacent to a known noise generator, such as a highway or heavy industrial area, the Noise Element should be examined to determine whether the property is included within a mapped noise "contour" line of a certain level. If it is located within a specific noise contour, General Plan policies in that element direct that noise impacts affecting new development on the property must be properly mitigated. A thorough reading of the General Plan text and maps is advisable.

Similarly, if a proposed project is located on a property that is crossed by a riparian vegetation or a creek, the specific policies that apply to the preservation and maintenance of creeks and adjacent lands must be consulted in the appropriate section of the Open Space or Conservation Element.

1.9 THE GENERAL PLAN AMENDMENT PROCESS

State law stresses that a General Plan can no longer be viewed as a static, "end state" document, but must adequately address the changing issues and policies of a jurisdiction during the designated "planning period." Thus, a process for considering amendments to the plan must be available to reflect changing conditions and community values.

Amendments to the plan can be initiated by the County (through the Planning Commission or Board of Supervisors) or requested by private individuals. A typical General Plan amendment ("GPA") involves changing a land use designation on a property or series of properties to allow urban development of what was previously agricultural lands within the Urban Limit Line, or to allow development of a different use or density than what is permitted under the existing plan. For example, a typical GPA will request a change in designation for a group of properties within the Urban Limit Line from "Agricultural Lands" to "Single Family Residential-High Density," or from a "Single Family" designation to a "Multiple Family" category. A GPA may also involve the reclassification of a roadway from a "collector" to an "arterial."

In accordance with Measure C - 1990, no General Plan amendment can change the 65/35 Land Preservation standard without a vote of the people by initiative. This standard limits urban development in the County to no more than 35 percent of the land in the County and preserves at least 65 percent of all land in the County for agriculture, open space, wetlands, parks and other non-urban uses.

State law generally limits the number of amendments to any mandatory element of a jurisdiction's plan to four each calendar year (Government Code Section 65358 (a)). However, State law does not limit the number of individual requests which can be packaged into each of the adopted General Plan Amendments.

When a request for a GPA is received by the County from a private individual, staff forwards the request to the Board of Supervisors with a recommendation on whether to proceed with a study of the application. After the Board authorizes the GPA study, staff collects the appropriate application fees and prepares an environmental evaluation of the proposal as required by the California Environmental Quality Act. After the environmental documentation has been prepared, staff analyzes the request and prepares a staff recommendation. The GPA request is then scheduled for a public hearing at the appropriate planning commission (i.e., County Planning Commission, East County Regional Planning Commission, San Ramon Valley Area Planning Commission). After receiving public testimony, the commission votes to recommend approval, denial, or modification of the request. The recommendation is then sent to the Board of Supervisors for another public hearing and a final decision.

Each GPA request must be carefully weighed as to its consistency with the adopted goals and policies of the existing General Plan. In reviewing proposals for GPA's, officials should remember that the General Plan is a policy document for the entire community and that it may only be amended "in the public interest" (Government Code Section 65358(a)). Every adopted GPA must be consistent with the rest of the plan and appropriate changes need to be made to maintain consistency.

1.10 THE TEXT OF MEASURE C - 1988 AND MEASURE C - 1990

MEASURE C - 1988

CONTRA COSTA TRANSPORTATION IMPROVEMENT AND GROWTH MANAGEMENT PROGRAM

Contra Costa Transportation Partnership Commission, adopted August 3, 1988

MEMBER JURISDICTIONS: Cities of Antioch, Brentwood, Clayton, Concord, El Cerrito, Hercules, Lafayette, Martinez, Orinda, Pinole, Pittsburg, Pleasant Hill, Richmond, San Pablo, San Ramon, Walnut Creek, Towns of Danville and Moraga, and the County of Contra Costa.

This Program contains the Contra Costa Transportation Improvement and Growth Management Expenditure Plan and Ordinance. The Ordinance, which is required to be adopted by the Contra Costa Transportation Authority (Contra Costa Transportation Partnership Commission) pursuant to Public Utilities Code commencing with Section 180000, is the legal document implementing the local retail transportation and use tax and specifying the method of allocation of the local retail transactions and use tax revenues and other requirements of the Measure. The Ordinance becomes effective at the close of the polls on the day of the election at which the local transportation measure is approved by the voters. The full text of the Expenditure Plan and the Ordinance are provided on the following pages.

CONTRA COSTA TRANSPORTATION PARTNERSHIP COMMISSION

The Contra Costa Transportation Partnership Commission, a Transportation Authority under the provisions of Public Utilities Code Section 180000, was created by the Mayors' Conference and the Board of Supervisors to provide a forum for transportation issues in Contra Costa and to propose ways to reduce traffic congestion.

CHAIR: Ronald K. Mullin

VICE-CHAIR: Sunne Wright McPeak

CENTRAL

Ronald K. Mullin, Councilmember, Concord

(Alternate: Carolyn Bovat, Councilmember, Clayton)

Ed Skoog, Mayor, Walnut Creek

(Alternate: Sherry Sterrett, Councilmember, Pleasant Hill)

EAST

Taylor Davis, Councilmember, Pittsburg

(Alternate: Richard Lettman, Councilmember, Pittsburg)

Cathryn Freitas, Councilmember, Antioch

(Alternate: Joel Keller, Mayor, Antioch)

SOUTHWEST

Beverly Lane, Mayor, Danville

(Alternate: Diane Schinnerer, Mayor, San Ramon)

Avon Wilson, Vive Mayor, Lafayette

(Alternate: Don Tatzin, Councilmember, Lafayette)

WEST

Sharon Brown, Mayor, San Pablo

David MacDiarmid, Councilmember, Richmond

BOARD OF SUPERVISORS

Sunne Wright McPeak, District 4

(Alternates: Robert I. Schroder District 3, Tom Powers, District 1, Nancy Fahden, District 2)

Tom Torlakson, District 5

(Alternates: Robert I. Schroder District 3, Tom Powers, District 1, Nancy Fahden, District 2)

MAYORS' CONFERENCE

Anna McCarty, Councilmember, Pinole

(Alternate: Ann Earnest, Councilmember, Hercules)

TABLE OF CONTENTS

	<u>Page</u>
EXPENDITURE PLAN	1-16
Statement of Principles	1-16
Projects and Programs	1-17
Project and Program Descriptions	1-17
Growth Management Program	1-18
Appendix A Information on Land Use Definitions	1-21
ORDINANCE #88-01	
Section 1. Title	1-22
Section 2. Expenditure Plan Purposes	1-22
Section 3. Imposition of Retail Transactions and Use Tax	1-23
Section 4. Request for Election	1-23
Section 5. Transportation Improvement Program Purposes	1-23
Section 6. Transportation Improvement Program Procedures	1-26
Section 7. Growth Management Purposes and Procedures	1-27
Section 8. Amendments to the Expenditure Plan	1-27
Section 9. Amendments to the Ordinance	1-28
Section 10. Authority Committees	1-28
Section 11. Private Sector Funding	1-28
Section 12. Bonding Authority	1-28
Section 13. Administrative Expenses	1-28
Section 14. Establishment of Separate Accounts	1-28
Section 15. Implementing Ordinances	1-29
Section 16. Effective and Operative Dates	1-29
Section 17. Designation of Facilities	1-29
Section 18. Contracts, Local Preference	1-29
Section 19. Severability	1-29
Section 20. Annual Appropriations Limit	1-29
Section 21. Coordination	1-29
Section 22. Allocation of Released Funds	1-29
Section 23. Allocation of Excess Funds	1-30
Section 24. Transportation Authority Eminent Domain	1-30
Section 25. Sunset of the Authority	1-30
Section 26. Caldecott Tunnel	1-30
Section 27. Major Arterials	1-30
Section 28. Definitions	1-30
ACKNOWLEDGEMENTS	1-31

CONTRA COSTA TRANSPORTATION IMPROVEMENT AND GROWTH MANAGEMENT EXPENDITURE PLAN STATEMENT OF PRINCIPLES

The Contra Costa Transportation Partnership Commission was created by the Mayors' Conference and the Board of Supervisors to provide a countywide forum for transportation issues and to propose ways to reduce traffic congestion.

To achieve this goal, the Transportation Partnership Commission, also established as the Transportation Authority under State Law (SB 142), has established principles to guide its efforts to develop a Countywide Comprehensive Transportation Plan and to develop an Expenditure Plan for a one-half cent retail transactions and use tax measure to be placed before Contra Costa voters in November, 1988.

The Commission's principles are as follows:

1. A balanced transportation network of highways, local streets, public transit, growth management and regional planning are necessary to preserve the quality of life and a healthy viable economy for Contra Costa residents.
2. Public input, through both the Citizen Advisory Committee and the Regional Transportation Planning Committees, is a critical element of a successful comprehensive transportation and growth management process to reduce traffic congestion.
3. State and Federal monies are insufficient to meet Contra Costa's transportation needs. A local retail transactions and use tax increase for transportation improvements is the only funding method available to local jurisdictions.
4. The Transportation Improvement and Growth Management Expenditure Plan is focused on alleviating existing traffic congestion through funding major regional projects and the establishment of a transportation and growth management process.
5. Transportation planning and growth management are needed to assure that new growth pays for the facilities required to meet the demands resulting from that growth. A cooperative planning process will be established on a countywide basis, while maintaining local authority over land use decisions and the establishment of performance standards, exclusive of operating budgets.
6. A complementary, but separate ballot measure, will provide for the acquisition and preservation of open space.

These principles are the basis of the Expenditure Plan which is presented by the Commission, its Citizen Advisory Committee, Regional Transportation Planning Committees and Technical Staff for approval by local jurisdictions and the voters of Contra Costa.

EXPENDITURE PLAN PROJECTS AND PROGRAMS

	<u>Allocation</u>
<u>Highways and Arterials</u>	
Interstate 680 Corridor	\$100,000,000
North Richmond/Interstate 80 Bypass (Route 93)	70,000,000
Route 4 (east)	80,000,000
Route 4 (west)	45,000,000
Gateway/Lamorinda Traffic Program	19,000,000
Major Arterials - Southwest Region	13,600,000
Camino Pablo (San Pablo Dam Road Corridor)	4,500,000
<u>Transit</u>	
Rail Extension - from Concord to North Concord and Eastern Contra Costa	178,000,000
Contra Costa Regional Commuterway	46,000,000
BART Parking	5,500,000
<u>Trails</u>	
Regional Bicycle and Pedestrian Trails	3,000,000

Programs

Elderly and Handicapped Transit Service	25,900,000
Local Street Maintenance and Improvements	155,500,000
Carpools, Vanpools, and Park-and-Ride Lots	8,600,000
Bus Transit Improvements and Coordination	42,400,000
Regional Transportation Planning and Growth Management	10,000,000

TOTAL	\$807,000,000
-------	---------------

EXPENDITURE PLAN PROJECTS AND PROGRAM DESCRIPTIONS - PROJECTSInterstate 680 Corridor

Widen and improve Interstate 680 between the Alameda County Line and the Benicia-Martinez Bridge, and Route 242 between Route 4 and Interstate 680. Project involves interchange, arterial and access improvements necessary to supplement already funded improvements. On Interstate 680, the project includes, but is not limited to, interchange improvements at Concord Avenue, Willow Pass Road, and North Main Street; auxiliary lanes between El Cerro Boulevard and Bollinger Canyon Road; and the Fostoria Overcrossing. On Route 242, the project includes, but is not limited to, interchange improvements at Solano Way, Concord Avenue, and Clayton Road. The Authority may loan funds to the State to speed completion of already funded improvements to Interstate 680.

North Richmond/Interstate 80 Bypass (Route 93)

Complete an expressway between Interstate 580 (the Knox Freeway) near the Richmond-San Rafael Bridge and Interstate 80 at a new Atlas Road interchange near Hilltop.

Route 4 (East)

Widen and improve Route 4 between Willow Pass Road in Concord to at least Railroad Avenue in Pittsburg. Project includes freeway widening, lowering the grade over the Willow Pass, and interchange improvements at various locations.

Route 4 (West)

Widen and improve Route 4 to a full freeway between Interstate 80 and Cummings Skyway. Project includes reconstruction of the Route 4/Interstate 80 interchange.

Gateway/Lamorinda Traffic Program

To identify action/measures to mitigate the traffic density between Highway 24 and the Town or Moraga including cost benefit analysis. Implementation of preferred project alternative (Lamorinda cities to jointly review and establish criteria for project implementation).

Major Arterials - Southwest Region

Funds to improve major arterials as jointly determined by the local jurisdictions of the Southwest Region (Danville, Lafayette, Moraga, Orinda, San Ramon, and the portions of the County). It is the intent of the Authority that local jurisdictions give priority to the following projects: Widen San Ramon Valley Boulevard from Hartz to Alcosta; widen Dougherty Road from the County line to Crow Canyon Road; widen Crow Canyon Road from the County line to Bollinger Canyon Road; widen eastbound Route 24 off-ramp at Brookwood and up-grade signals; and improve the St. Marys Road-Glenside Drive-Reliez Station Road corridor.

Camino Pablo (San Pablo Dam Road Corridor)

Improve and realign Camino Pablo in Orinda as a two-lane roadway with protected left turn lanes and separated pedestrian and bicycle paths.

Rail Extension From Concord to North Concord and Eastern Contra Costa

Extend rail transit (BART or light rail) from the Concord BART Station to North Concord and over the Willow Pass Grade to eastern Contra Costa.

Contra Costa Regional Commuterway

Develop bus/van commute lanes connecting the residential areas of eastern and central Contra Costa with job centers in central and southern Contra Costa. The project will use available rights-of-way and planned highway widening along the Route 4 and Interstate 680 corridors. Project shall use the Interstate 680 right-of-way in southern Contra Costa. Development of the project shall be sensitive to adjacent land uses, including a study of route realignment in Walnut Creek as part of mitigation of impacts. Project includes constructing park and ride lots, including those at Sycamore Valley and Bollinger Canyon Roads. Project also includes planning and right of way preservation for future connections to western Contra Costa.

BART Parking at the El Cerrito del Norte Station

Provide additional parking at the El Cerrito del Norte BART station. The Authority shall work with BART to speed completion of already funded BART parking projects and to fund additional parking at other BART stations.

Regional Bicycle and Pedestrian Trails

Complete regional bicycle and pedestrian trails including the Iron Horse Trail in San Ramon Valley, central Contra Costa Trails, and connections to eastern Contra Costa and the Martinez Shoreline Park.

PROGRAMSElderly and Handicapped Transit Service

Improve paratransit service for elderly and handicapped persons, including additional service and new vehicles.

Local Street Maintenance and Improvements

Funds returned to local jurisdictions on a formula basis for local, subregional and regional transportation projects as determined by cities and the county, including street and road maintenance and/or transit improvements.

Funds shall be allocated annually to each local jurisdiction, provided that the Authority finds the jurisdiction in compliance with the Growth Management Program. Eighteen percent of the annual net retail transactions and use tax revenue shall be distributed as follows: each jurisdiction shall receive a basic allocation of \$50,000, and the remaining amount shall be allocated using a formula of 50% based on population and 50% based on road miles.

It is the intent of the Authority that local jurisdictions give priority to using these funds for improving major arterial streets.

Carpools, Vanpools, and Park and Ride Lots

Funds to provide and promote use of these commute alternatives to be allocated on a grant basis.

Bus Transit Improvements and Coordination

Provide funds to increase ridership, efficiency, and coordination among the transit agencies. The Authority shall allocate funds on a grant basis to support coordinated service proposals submitted by the transit agencies. Service proposals shall focus on major commute corridors such as Ygnacio Valley Road.

A plan for the implementation of transportation improvements in the Ygnacio Valley Road corridor shall be developed by the Central Contra Costa Transit Authority, in cooperation with the City of Walnut Creek.

Regional Transportation Planning and Growth Management

Develop a countywide Comprehensive Transportation Plan and computer model and update it every two years, provide technical support for the Regional Transportation Planning Committees, and conduct transportation and growth management studies. The Authority shall annually budget a percentage of the net tax revenue for regional transportation and growth management purposes.

EXPENDITURE PLAN GROWTH MANAGEMENT PROGRAM

To Be Met By Local Jurisdictions For Receipt Of Local Street Maintenance and Improvements Funding

Introduction

The overall goal of the Growth Management Program is to achieve a cooperative process for Growth Management on a countywide basis, while maintaining local authority over land use decisions and the establishment of performance standards.

The transportation retail transactions and use tax is intended to alleviate existing major regional transportation problems. Growth management is needed to assure that future residential, business and commercial growth pays for the facilities required to meet the demands resulting from that growth.

It is the intent of the Transportation Authority to create a process that results in the maintenance of the quality of life in Contra Costa.

Local Street Maintenance and Improvements

Portions of the monies received from the retail transactions and use tax will be returned to the local jurisdictions (the cities and the county) for use on local, subregional and/or regional transportation improvements and maintenance projects. Receipt of all such funds requires compliance with the Growth Management Program described below. The funds are to be distributed on a formula based on population and road miles.

Allocation of Funds

The Authority will annually review and allocate funds to cities and the county. In allocating funds, the Authority shall make findings based on a statement of compliance regarding the Growth Management Program.

To receive local street maintenance and improvement funds from the Authority, each jurisdiction shall submit a statement of compliance with the Growth Management Program. Jurisdictions may use funds allocated under this provision to comply with these administrative requirements. The Authority will review this statement and make findings regarding the jurisdiction's efforts. If the jurisdiction's efforts are found satisfactory, the jurisdiction will be allocated its share of local street maintenance and improvement funding.

Because of the great variation among the jurisdictions, it is expected that the Authority will need some flexibility in determining compliance with the Growth Management Program. Generally, this flexibility may take the form of the Authority setting deadlines for achieving one or more requirements as a condition of receiving local street maintenance and improvement funds.

Growth Management Program

To receive its local street maintenance and improvement funds, each jurisdiction must:

1. Adopt a Growth Management Element

Each jurisdiction is to develop a Growth Management Element of its General Plan to be applied in the development review process. The element must include Sections 2 and 3 below, and jurisdictions must comply with Sections 4-8 below. The Authority and the Regional Transportation Planning Committees shall jointly prepare a model element and administrative procedures to guide the local jurisdictions. Local jurisdictions shall develop their Growth Management Element within one year after receipt of the Authority's model element.

2. Adopt Traffic Level of Service (LOS) Standards Keyed to Types of Land Use

- o Rural – LOS low-C (70 to 74) Volume to Capacity (V/C)
- o Semi-Rural – LOS high-C (75 to 79) V/C
- o Suburban – LOS low-D (80 to 84) V/C
- o Urban – LOS high-D (85 to 89) V/C
- o Central Business District – LOS low-E (90 to 94) V/C

Based on the categories established above, each jurisdiction shall determine how the Traffic Service standards are to be applied to their General Plan land use and circulation elements, and the land areas to be defined as Rural, Semi-Rural, Suburban, Urban, and Central Business District (as suggested in the Guidelines in Appendix A). Each jurisdiction shall comply with the adopted standards. Jurisdictions may adopt more stringent standards without penalty.

Level of Service (LOS) would be measured by Circular 212 or the method described in the most commonly used version of the Highway Capacity Manual. Any issues with respect to the application of the Highway Capacity

Manual or measurement of level of service shall be referred to the Authority's Technical Coordinating Committee for review and recommendation to the Authority. In the event that an intersection(s) exceeds the applicable Traffic Service standard, the Authority shall, jointly with local jurisdictions, establish appropriate mitigation measures or determine that a given intersection is subject to a finding of special circumstances.

Any intersection that presently exceeds the Traffic Service standards and which will be brought into compliance in the most current Five Year Capital Improvement Program (see Section 6) shall be considered to be in compliance with the applicable standard.

The Authority, jointly, with affected local jurisdictions, shall determine and periodically review the application of Traffic Service Standards on routes of regional significance. The review will take into account traffic originating outside of the county or jurisdiction, and environmental and financial considerations. Local jurisdictions, through the forum provided by the Authority, shall jointly determine the appropriate measures and programs for mitigation of regional traffic impacts (see Section 5).

Capital projects necessary to meet and/or maintain the Traffic Service standards are to be included in the required Five Year Capital Improvement Program (see Section 6).

3. Adopt Performance Standards, Maintained Through Capital Projects, for the Following Items, Based on Local Criteria:

- | | | |
|-----------|------------------------|------------------|
| a. fire | c. parks | e. water |
| b. police | d. sanitary facilities | f. flood control |

Jurisdictions may have already adopted performance standards for some or all of these items.

Performance standards shall be adopted for inclusion in each local jurisdiction's General Plan. Each jurisdiction shall comply with the adopted standards. The Performance Standards should take into account fiscal constraints, and how the standards are to be applied in each jurisdiction's development review process. To ensure the continued applicability of these standards, each jurisdiction may annually review and modify their adopted standards, in consultation with special districts where appropriate, and provide an opportunity for public comment.

Capital projects, exclusive of operating budgets, to achieve and/or maintain Performance Standards are to be included in the required Five Year Capital Improvement Program (see Section 6).

4. Adopt a Development Mitigation Program to Ensure that New Growth is Paying its Share of the Costs Associated with that Growth

Local jurisdictions, for the most part, already impose fees for a variety of purposes including site specific traffic improvements. Only a few jurisdictions impose fees for regional traffic mitigation.

To meet the requirements of this Section, each jurisdiction shall:

- 1) Ensure that revenue provided from this measure shall not be used to replace private developer funding which has been or will be committed for any project.
- 2) Adopt a development mitigation program to ensure that development is paying its share of the costs associated with that development.

In addition, the Authority shall:

- 1) Develop a program of regional traffic mitigation fees, assessments or other mitigations, as appropriate, to fund regional and subregional transportation projects, as determined in the Comprehensive Transportation Plan of the Authority.
- 2) Consider such issues as jobs/housing balance, carpool and vanpool programs and proximity to transit service in the establishment of the regional traffic mitigation program.
- 3) The development mitigation program will be implemented with the participation and concurrence of local jurisdictions in determining the most feasible methods of mitigating regional traffic impacts. Existing regional traffic impact fees shall be taken into account by the Authority.

5. Participate in a Cooperative, Multi-Jurisdictional Planning Process to Reduce Cumulative Regional Traffic Impacts of Development

The Authority shall establish a forum for jurisdictions to cooperate in easing cumulative traffic impacts. This will be accomplished through the Regional Transportation Planning Committees, and be supported by an ongoing countywide comprehensive transportation planning process in which all jurisdictions shall participate.

As part of this process, a uniform database on traffic impacts will be created, based on the countywide transportation computer model.

Use of the countywide transportation computer model provides an opportunity to test General Plan(s) transportation and land use alternatives, and to assist cities and the county in determining the impact of major development projects proposed for General Plan Amendments. This would provide a quantitative basis for inter-jurisdictional negotiation to mitigate cumulative regional traffic impacts.

Input for the model shall include each jurisdiction's Five Year Capital Improvement Program of transportation projects (see Section 6) and the projects of federal, state and regional agencies such as Caltrans, transit operators, the Metropolitan Transportation Commission, etc. In addition, the computer model database will include each local jurisdiction's anticipated land use development projects expected to be constructed within the next five years.

6. Develop a Five Year Capital Improvement Program to Meet and/or Maintain Traffic Service and Performance Standards (Defined in Sections 2 and 3)

Each jurisdiction shall determine the capital projects needed to meet and/or maintain both its adopted Traffic Service and Performance Standards. Capital financial programming will be based on development to be constructed during (at a minimum) the following five year period. The Capital Improvement Program shall include approved projects and an analysis of the costs of the proposed projects as well as a financial plan for providing the improvements.

7. Address Housing Options and Job Opportunities

As part of its Five Year Capital Improvement Program and pursuant to the state mandated housing element of its General Plan, each jurisdiction shall develop an implementation program that creates housing opportunities for all income levels.

Each jurisdiction shall also address land use information as it relates to transportation demand as well as discussion of each jurisdiction's efforts to address housing options and job opportunities on a city, subregional and countywide basis.

8. Adopt a Transportation Systems Management (TSM) Ordinance or Alternative Mitigation

To promote carpools, vanpools and park and ride lots, the Transportation Authority will draft and adopt a Model Transportation Systems Management Ordinance for use by local jurisdictions in developing local ordinances for adoption and implementation. Upon approval of the Authority, cities with a small employment base may adopt alternative mitigation measures in lieu of adopting a TSM Ordinance.

EXPENDITURE PLAN GROWTH MANAGEMENT PROGRAM

APPENDIX A - INFORMATION ON LAND USE DEFINITION

These definitions are for information, guidance and are subject to local jurisdictions' determination in the application of Traffic Service Standards.

Rural

Rural areas are defined as generally those parts of the jurisdiction which have been designated in the General Plan for agricultural or open space uses and which are characterized by medium to very large parcel sizes (10 acres to several thousand acres). These areas have very low population densities, usually no more than 1 person per acre or 500 people per square mile.

Semi-Rural

Semi-Rural areas are defined as generally those parts of the jurisdiction that are designated in the General Plan for agricultural, open space or very low density residential uses, with predominant parcel sizes down to as small as 2 to 3 acres. These areas may support viable agricultural operations, but the operations generally occur on small to medium sized lots. These areas are also characterized by clusters of farm housing or very low density "ranchette" development. The population densities in these areas usually range between 500 to 1,000 persons per square mile (1.0 to 1.5 persons per acre).

Suburban

Suburban areas are defined as generally those parts of the jurisdiction that are designated in the General Plan for low and medium density single family homes; low density multiple family residences; low density neighborhood and community oriented commercial/industrial uses; and other accompanying uses. Individual structures in suburban areas are generally less than 3 three stories in height and residential lots vary from about 6,000 square feet up to 2 or 3 acres. Population densities in suburban areas fall within a wide range, from about 1,000 to 7,500 persons per square mile (1.5 to 12.0 people per acre).

Urban

Urban areas are defined as generally those parts of the jurisdiction that are designated in the General Plan primarily for multiple family housing, with smaller areas designated for high density single family homes; low to moderate density commercial/industrial uses; and many other accompanying uses. Urban areas usually include clusters of residential buildings (apartments and condominiums) up to three or four stories in height and single family homes on relatively small lots. Many commercial strips along major arterial roads are considered urban areas.

Examples of urban areas in Contra Costa County are the older neighborhoods in Richmond, El Cerrito, Pittsburg, and Antioch and the downtown commercial districts in smaller cities such as Martinez, Danville, and Lafayette. Population densities in urban areas are usually at least 7,500 persons per square mile (12.0 people per acre). Employment densities in commercial areas may range up to about 15 jobs per acre.

Central Business District/Major Commercial Center

Central business districts or major commercial centers are defined as those areas designated in the General Plan for high density commercial and residential uses. They consist of either the downtown area of a major city (Concord, Walnut Creek, Richmond, and the Pleasant Hill BART station area) or a large business park (such as Bishop Ranch). These areas are characterized by large concentrations of jobs and consist of clusters of buildings four stories or more in height. CBD's or major commercial centers generally have high employment densities.

Routes of Regional Significance

Routes of regional significance are generally those that serve travel across Contra Costa County (for example, eastern Contra Costa to central Contra Costa), or between Contra Costa County and adjacent counties. Examples of routes of regional significance include: the Interstate and State Highway system, Ygnacio Valley Road, Treat Boulevard, San Pablo Avenue, San Pablo Dam Road, Lone Tree Way, etc.

CONTRA COSTA TRANSPORTATION IMPROVEMENT AND GROWTH MANAGEMENT ORDINANCE #88-01

The Contra Costa Transportation Authority ordains as follows:

SECTION 1 – TITLE

This Ordinance shall be known and may be cited as the Contra Costa Transportation Improvement and Growth Management Ordinance (#88-01) which shall establish and implement a retail transaction and use tax.

SECTION 2 – EXPENDITURE PLAN PURPOSES

This Ordinance provides for the implementation of the Contra Costa Transportation Improvement and Growth Management Expenditure Plan, as approved and adopted by the Contra Costa Transportation Authority, which will result in countywide transportation facility and service improvements including highway improvements, public transit improvements, trail facility improvements, local street maintenance and improvements and related transportation programs. These needed improvements shall be funded by the retail transactions and use tax provided for in Section 3 of this Ordinance. The

revenues shall be deposited in a special fund and used solely for transportation projects and programs. The specific projects and programs to be implemented as well as the required growth management program are described in the Expenditure Plan which is considered a part of this Ordinance and hereby incorporated by reference as if fully set forth herein.

The revenues received by the Authority from this Ordinance, after deduction of required Board of Equalization costs for performing the functions specified in Section 180204 of the Public Utilities Code, and for the administration of the Contra Costa Expenditure Plan commencing with Public Utilities Code Section 180200, in an amount not to exceed one percent (1%), shall be used for transportation projects and programs countywide as set forth in the Expenditure Plan and in a manner consistent with the Comprehensive Transportation Plan developed by the Authority.

SECTION 3 – IMPOSITION OF RETAIL TRANSACTIONS AND USE TAX

In addition to any other taxes authorized by law, there is hereby imposed in the incorporated and unincorporated territory of the County of Contra Costa, in accordance with the provisions of Part 1.6 (commencing with Section 7251) of Division 2 of the Revenue and Taxation Code which provisions are adopted by reference and Division 19 of the Public Utilities Code commencing with Code Section 180000, a retail transaction and use tax at the rate of one-half of one percent (1/2%) for a period not to exceed twenty years in addition to any existing or future authorized state or local transactions and use tax.

- A. Amendments. All amendments subsequent to the effective date of this Ordinance to Part 1 of Division 2 of the Revenue and Taxation Code relating to sales and use taxes and which are not inconsistent with Part 1.6 of Division 2 of the Revenue and Taxation Code, shall automatically become a part of this Ordinance; provided, however, that no such amendments shall operate so as to affect the rate of tax imposed by this Ordinance.
- B. Enjoining Collection Forbidden. No injunction of writ of mandate or other legal or equitable process shall issue in any suit, action or proceeding in any court against the State or the Authority, or against any officer of the State or the Authority, to prevent or enjoin the collection under this Ordinance, or Part 1.6 of Division 2 of the Revenue and Taxation Code, of any tax or any amount of tax required to collected.

SECTION 4 – REQUEST FOR ELECTION

The Authority hereby requests the Contra Costa County Board of Supervisors place this Ordinance before the voters for approval on the November 8, 1988 ballot.

The proposition to be placed on the ballot shall contain a summary of the projects and programs and shall read substantially as follows:

Shall the Contra Costa Transportation Authority be authorized to establish, by Ordinance, a one-half of one percent retail transactions and use tax with an Article XIII B appropriations limit of \$765 million, for a period not to exceed twenty years, with the proceeds placed in a special fund solely for the transportation construction and planning program?

SECTION 5 – TRANSPORTATION IMPROVEMENT PROGRAM PURPOSES

In the allocation of all revenues made available from the retail transactions and use tax, the Authority shall make every effort to maximize state and federal transportation funding to the region. The Authority may amend the Expenditure Plan, in accordance with Section 8, as needed, to maximize the transportation funding to Contra Costa County. The revenues shall be allocated in accordance with the Expenditure Plan subject to the following provisions:

- A. The revenues made available for specified highway, transit and trail projects and programs shall be allocated in accordance with the Expenditure Plan, subject to the following provisions:
 - 1. For All Projects:
 - a. No revenue shall be allocated for any state projects until the Authority has certified that Contra Costa is receiving, at a minimum, its fair share of funds from state and federal sources for transportation projects and programs. The determination of fair share shall consider all relevant factors including the degree to which the Contra Costa region is receiving its statutory county minimum funding for all budgeted, expended, and programmed state funds and federal funds available for capital projects and operating subsidies. The policies and project approval actions

of the California Transportation Commission, the State Department of Transportation (hereafter referred to as Caltrans) and the federal Department of Transportation (e.g., Federal Highway Administration and Urban Mass Transportation Administration) will also be reviewed to ensure that Contra Costa is receiving full consideration in the allocation of any additional uncommitted state and federal funding. Part of the certification shall include a finding that the state has not reduced any state fund allocations to the Contra Costa region as a result of the addition of any local revenues as provided herein. The certification shall be made annually.

- b. If the Authority finances the construction of transportation facilities by the issuance of bonds or any similar financing device, the Authority shall first allocate the funds necessary to meet all debt service requirements.
- c. Each project shall have a local jurisdiction(s) or special district as a sponsor of the project. If there is no local jurisdiction or special district as a project sponsor for a specific Project or Program, the Authority shall be the sponsor for that Project or Program.
- d. All state improvements to be funded with revenues as provided in this Ordinance, including project development and overall project management, shall be a joint responsibility of Caltrans, the Authority and the affected local jurisdiction(s) or special district(s). All major project approval actions including the project concept, the project location, and any subsequent change in project scope shall be jointly agreed upon by Caltrans, the Authority and the project sponsors, and where appropriate, by the Federal Highway Administration and/or the California Transportation Commission.
- e. The Authority may use the proceeds of this Ordinance to accelerate projects which are anticipated to be funded through the State Transportation Improvement Program (STIP). It must be demonstrated by Caltrans that a meaningful acceleration can be accomplished using Authority funds and the State must commit to refunding those proceeds in dollars or in the acceleration or completion of other Expenditure Plan Projects and Programs and/or STIP projects.

In the event that the refund of acceleration funds impact the implementation of any Expenditure Plan Project or Program, the Authority shall amend the Expenditure Plan under Section 8.

- f. Any local funds already allocated, committed or otherwise included in the financial plan for any project on the Expenditure Plan shall be made available for project development and implementation as required in the project's financial and implementation program. All local jurisdictions and special districts are encouraged to seek all available funding from private and public sources to further the purposes of the Expenditure Plan and this Ordinance.

2. For Highway Projects:

- a. Once any state highway facility or usable portion thereof is constructed to at least minimum acceptable state standards, the state shall be responsible for the maintenance and operation thereof.

3. For Transit Projects:

- a. Prior to the construction of any transit facility or usable portion thereof, the Authority, in cooperation with affected transit operators and agencies, shall determine the entity to be responsible for the maintenance and operation thereof.

4. For Trail Projects:

- a. Prior to the construction of any trail facility or usable portion thereof, the Authority, in cooperation with affected agencies, shall determine the entity(ies) to be responsible for the maintenance and operation thereof.

- B. Funds made available for local street and road purposes shall be allocated annually to all local jurisdictions on a formula basis for transportation projects. In addition to local street and road projects and maintenance, funds may be used for subregional and regional transportation projects and to meet the administrative requirements

of the Growth Management Project. Funds shall be allocated annually to each local jurisdiction, provided that the Authority finds the jurisdiction in compliance with the Growth Management Program. Available funds will be allocated to eligible jurisdictions as follows:

1. Each jurisdiction will receive a basic allocation of \$50,000, and the remaining funds will be allocated to jurisdictions by formula based fifty percent (50%) on current population and fifty percent (50%) on maintained street and road mileage.
2. Population figures used shall be the most current figures available from the Department of Finance. Road mileage figures shall be the most current figures from the State Controller's Annual Report of Financial Transactions for Streets and Roads.
3. Any new incorporation or annexations which take place after July 1 of any fiscal year shall be incorporated into the formula beginning with the subsequent fiscal year, providing there is full compliance with all other sections of this Ordinance. The Association of Bay Area Governments' population estimates of such new incorporation or annexations shall be used until such time that Department of Finance population estimates are available.

C. Funds allocated for the Programs specified in the Expenditure Plan shall be allocated pursuant to the following provisions:

1. Elderly and Handicapped Transit Service. These funds are intended to improve paratransit service for elderly and handicapped persons, including additional service and new vehicles. To stabilize the resources available for this program, the Authority may manage funds allocated for this program on a trust fund basis.

The Paratransit Coordinating Council shall develop a capital and operating plan for Authority approval prior to the allocation of any funds pursuant to this Ordinance. Only eligible recipients of Transportation Development Act 4.5 funds are eligible to receive retail transaction and use tax funds from the Authority.

2. Carpools, Vanpools and Park/Ride Lots. These funds are to be used to provide and promote use of commute alternatives. On a grant basis, the Authority shall annually allocate one percent of the net tax revenue to this program. Local jurisdictions and transit operators are eligible to seek funds from this grant program.
3. Bus Transit Improvements and Coordination. In order to receive funds under this category, bus operators and the Authority staff are to develop a coordinated program for submission to the Authority. This program should encompass all areas of the county, should involve affected jurisdictions, should focus on major commute corridors, and should work to provide a viable alternative to the single-occupant vehicle for intra-county travel.

Projects funded through the Bus Transit Improvement and Coordination Program shall include, but are not limited to:

- a. services designed to improve regional (defined by the Authority) travel and coordination among eligible transit operators to strengthen the linkages between transit service areas and linkages to rail stations in the county;
- b. transit services along major commute corridors, such as Ygnacio Valley Road and Interstate 80, to assist in relieving peak-period traffic congestion;
- c. transit services to assist in alleviating traffic during major highway construction projects; and
- d. focus on linkages between residential areas and job centers.

Projects, prior to approval by the Authority, must be endorsed by the transit operators' governing boards and be included in the respective operators' annual operating plans. All projects shall be subject to a public participation process and a financial capacity analysis as required by the Urban Mass Transportation Administration (UMTA).

Projects submitted under the Bus Transit Improvement and Coordination Program will be evaluated and reviewed by a Transit Council comprised of the General Managers (or his/her designated

representative) of the eligible applicants (AC Transit, Central Contra Costa Transit Authority, Eastern Contra Costa Transit Authority, and Western Contra Costa Transit Authority) and the San Francisco Bay Area Rapid Transit District as an ex officio member, and the Authority Executive Director or his/her designated representative. On an annual basis, this Transit Council will compile a recommended Coordinated Transit Proposal consisting of the selected projects for Authority and respective policy Board approval.

The Authority shall assist with technical support to develop, coordinate, and review the Transit Council's Coordinated Service Proposal.

The Transit Council shall develop its administrative procedures, subject to approval by all eligible operators' governing boards and the Authority. The Transit Council in conjunction with the Authority shall be responsible for the development of evaluation criteria regarding the continued funding of projects, on a project-by-project basis. Criteria may included:

- o Farebox Recovery Ratio
- o Passenger Boarding per Revenue Vehicle hour
- o Operating Cost per Revenue Vehicle
- o Constrained Increases in Operating Costs
- o Transportation Development Act Standards Performance Indicators
- o Cost per Revenue Vehicle Mile
- o Cost per Trip
- o Vehicle Hours per Employee
- o Trips per Revenue Vehicle Hour
- o Trips per Revenue Vehicle Mile

These funds must:

- o be spent to alleviate traffic congestion in Contra Costa;
- o be for the purchase and operation of transit vehicles;
- o be used for operations, maintenance, and capital programs; and
- o assist the operators in the implementation of developed plans.

Bus operators are responsible for funding their service commitments at the end of the period of this tax. Bus operators are required to seek all funds available to support operations.

4. Regional Transportation Planning and Growth Management. The Authority shall provide a forum for the discussion and resolution of countywide transportation planning and related issues.

The Authority, through the retail transactions and use tax and any other available funds, shall support the planning efforts of the Regional Transportation Planning Committees established under the Authority and shall support efforts to develop and maintain an ongoing planning process with the cities and the county through the funding and development of a Comprehensive Transportation Plan.

The Authority shall coordinate its efforts with all appropriate and affected agencies in order to assure that the retail transactions and use tax and other funds are used effectively to develop and implement a comprehensive transportation planning process in cooperation with the cities and the county.

Regional transportation planning may also include studies of major new transportation facilities and programs.

SECTION 6 – TRANSPORTATION IMPROVEMENT PROGRAM PROCEDURES

It is the intent of the Legislature and the Authority that revenues provided from this Ordinance be used to supplement existing revenues being used for transportation improvements and programs. Each local jurisdiction receiving Local Street Maintenance and Improvements funds pursuant to Section 5 shall meet the requirements in that section.

Under state enabling legislation, a jurisdiction cannot redirect monies currently being used for transportation purposes to other uses, and then replace the redirected funds with local street maintenance and improvement dollars from the retail transactions and use tax. To meet the requirements of state law, a jurisdiction must demonstrate maintenance of a minimum level of local street and road expenditure in conformance with one of the requirements below.

- A. The same level of local discretionary funds expended for street and road purposes as was reported in the State Controller's Annual Report of Financial Transactions for Streets and Roads – Fiscal Year 1986-87.
- B. If any local jurisdiction had extraordinary local discretionary fund expenditures during FY 1986-87, it may use, as a base for determining the minimum level of local discretionary funds:
 - 1. the average amount of such funds reported to the State Controller for the three-year period FY 1984-85 through FY 1986-87; or
 - 2. the net contribution obtained by subtracting those extraordinary expenses (including but not limited to SB 300 funds, assessment district contributions, development impact funds, redevelopment agency contributions, or other non-recurring contributions) from its total expenditures; or
 - 3. a petition to the Authority for special consideration. A local jurisdiction may need to revise its minimum expenditure base beyond the subtraction of extraordinary expenses. In this instance, the Authority may allow the establishment of a new base for that jurisdiction's maintenance of effort requirement. A local jurisdiction petitioning the Authority under this provision must supply evidence of the need for special consideration.

The use of provisions B. 1, 2, or 3 of this Section by a local jurisdiction shall be subject to Authority approval.

The Authority shall annually update the base year and preceding three year base period for the establishment of an annual minimum based on the information available from the State Controller's Annual Report of Financial Transactions for Streets and Roads.

An annual independent audit may be conducted to verify that the Maintenance of Effort requirements were met by the local jurisdictions. Any local jurisdiction which does not meet its Maintenance of Effort requirement in any given year may have its Local Street Maintenance and Improvements funding reduced in the following year by the amount by which the jurisdiction did not meet its required Maintenance of Effort. Such funds shall be redistributed to the remaining eligible jurisdictions.

SECTION 7 – GROWTH MANAGEMENT PURPOSES AND PROCEDURES

In order to receive Local Street Maintenance and Improvements Funds, local jurisdictions must meet the requirements of the Growth Management Program. The specific requirements of the growth management program are described in the Expenditure Plan which is considered a part of this Ordinance and hereby incorporated by reference as if fully set forth herein. The Authority shall develop administrative requirements, in consultation with local jurisdictions, to implement the Growth Management Program.

SECTION 8 – AMENDMENTS TO THE EXPENDITURE PLAN

The Authority may annually review and propose amendments to the Expenditure Plan to provide for the use of additional federal, state and local funds, to account for unexpected revenues, or to take into consideration unforeseen circumstances. The Authority shall establish a process for proposed Expenditure Plan amendment(s) which ensures that the affected Regional Transportation Planning Committee(s) participate in the development of the proposed amendment(s). Upon completion of this process, amendment(s) to the Expenditure Plan must be passed by a roll call vote entered in the minutes and must have a majority of the Authority concurring with the proposed amendment(s). Subsequently, the Authority shall notify the Board of Supervisors, the City Council of each city in the county and the Mayors' Conference and provide each entity with a copy of the proposed amendment(s). Pursuant to Public Utilities Code 180207, proposed amendment(s) shall become effective 45 days after notice is given, unless appealed under the process outlined in the following paragraph. The Authority shall hold a public hearing on the proposed amendment(s) within this 45-day period.

In the event that a local jurisdiction does not agree with the Authority's amendment(s), the jurisdiction's policy decision-making body must, by a majority vote, determine to appeal and shall, within 45 days after notice is given by the Authority, formally notify the Authority of its intent, in writing via registered mail, to obtain an override of the Authority's amendment(s). The appealing jurisdiction will have 45 days from the date of its determination to appeal the proposed amendment(s) to obtain resolutions supporting its appeal for an override of the amendment(s) from a majority of the cities representing a majority of the population residing in the incorporated areas of the county and from the Board of Supervisors. If a jurisdiction does not obtain the necessary resolutions supporting its appeal, the Authority's amendment(s) to the Expenditure Plan will stand.

SECTION 9 – AMENDMENTS TO THE ORDINANCE

With the exception of Section 3, which requires a majority vote of the electors of the County of Contra Costa to be amended, this Ordinance may be amended to further its purposes. The Authority shall establish a process for proposed Ordinance amendment(s) which ensures that the Regional Transportation Planning Committees participate in proposed Ordinance amendment(s). Upon completion of that process, amendment(s) to this Ordinance must be passed by a roll call vote entered in the minutes and must have two-thirds of the Authority concurring with the proposed amendment(s).

In the event that a local jurisdiction does not agree with the Authority's amendment(s), the jurisdiction's policy decision-making body must, by a majority vote, determine to formally notify the Authority of its intent, in writing via registered mail, to obtain an override of the Authority's amendment(s). The appealing jurisdiction will have 45 days from the date the Authority adopts the proposed amendment(s) to obtain resolutions supporting its appeal for an override of the amendment(s) from a majority of the cities representing a majority of the population residing within the incorporated areas of the county and from the Board of Supervisors. If a jurisdiction does not obtain the necessary resolutions supporting its appeal, the Authority's amendment(s) to the Ordinance will stand.

SECTION 10 – AUTHORITY COMMITTEES

It is the intent of the Authority to continue the committees which were established as part of the Transportation Partnership Commission organization. The committees are:

- A. The Regional Transportation Planning Committees which were established to develop transportation plans on a geographic basis for sub-areas of the County;
- B. The Transportation Partnership Advisory Committee which will serve as the Authority's citizens advisory committee;
- C. The Technical Coordinating Committee which will serve as the Authority's technical advisory committee.

SECTION 11 – PRIVATE SECTOR FUNDING

Revenues provided from this Ordinance shall not be used to replace private developer funding which has been or will be committed for any project.

SECTION 12 – BONDING AUTHORITY

"Pay as you go" is the preferred method of financing transportation improvements and programs. However, the Authority may use bond financing as an alternative method in the event that the scope of planned expenditures makes "pay as you go" financing infeasible. Upon voter approval of the Ordinance, the Authority shall have the authority to issue bonds payable from the proceeds of the tax for the construction of needed transportation facility improvements. The Authority, in allocating the annual revenues from the Ordinance, shall meet all debt service requirements prior to allocating funds for other projects.

SECTION 13 – ADMINISTRATIVE EXPENSES

Revenues may be expended by the Authority for salaries, wages, benefits, overhead, auditing and those services including contractual services necessary to administer the Ordinance; however, in no case shall the annual expenditures for the salaries and benefits of the staff of the Authority exceed one percent of the annual revenues provided by the Ordinance. Costs of performing or contracting for project related work shall be paid from the revenues allocated to the appropriate purpose as set forth herein.

An annual independent audit shall be conducted to assure that the revenues expended by the Authority under this section are necessary and reasonable in carrying out its responsibilities under the Ordinance.

SECTION 14 – ESTABLISHMENT OF SEPARATE ACCOUNTS

The Authority shall allocate funds to Expenditure Plan Projects and Programs as necessary to meet contractual and program obligations. The Authority may allocate funds as described but may reserve the right not to disburse monies until needed to meet contractual projects or program obligations, exclusive of the Local Street Maintenance and Improvement Funds. Each agency receiving funds from this Ordinance shall deposit said funds in a separate interest bearing Transportation Improvement Account. Any interest earned on funds allocated pursuant to this Ordinance shall be

expended only for those purposes for which the funds were allocated or shall be returned to the Authority. The Authority reserves the right to audit such accounts.

SECTION 15 – IMPLEMENTING ORDINANCES

Upon approval of this Ordinance by the voters the Authority shall, in addition to the local rules required to be provided pursuant to this Ordinance, adopt implementing ordinances, rules and administrative procedures, including Authority terms of office, and take such other actions as may be necessary and appropriate to carry out its responsibilities to implement the Contra Costa Transportation Improvement and Growth Management Expenditure Plan.

SECTION 16 – EFFECTIVE AND OPERATIVE DATES

This Ordinance shall become effective on November 8, 1988 only if a majority of the electors voting on the Ordinance at the election held on November 8, 1988 vote to approve the Ordinance. If so approved, the provisions of this Ordinance shall become operative on April 1, 1989.

SECTION 17 – DESIGNATION OF FACILITIES

Each project or program in excess of \$250,000 funded in whole or in part by revenues from the Ordinance shall be clearly designated in writing via signs and/or documents, during its construction or implementation as being funded by revenues from the Ordinance.

SECTION 18 – CONTRACTS, LOCAL PREFERENCE

It is the preference of Authority, where feasible, and allowed under applicable law, to contract with Northern California organizations and businesses and to maximize contract opportunities for minority and women owned businesses. The Authority shall develop administrative procedures for contracts.

SECTION 19 – SEVERABILITY

If any section, part, clause or phrase of this Ordinance is for any reason held invalid or unconstitutional, the remaining portions shall not be affected but shall remain in full force and effect.

If a state law is passed in the future which prevents local jurisdictions from establishing standards for any of the six Growth Management Performance Standards in the Authority's Growth Management Program, the Authority may elect to delete or modify the requirements for that Performance Standard.

SECTION 20 – ANNUAL APPROPRIATIONS LIMIT

Article XIII(B) of the California constitution requires the establishment of an annual appropriations limit for certain governmental entities. The maximum annual appropriations limit for the Authority has been established as \$765 million. The appropriations limit shall be subject to adjustment as provided by law. All expenditures of the retail transactions and use tax revenues imposed in Section 3 are subject to the appropriations limit of the Authority.

SECTION 21 – COORDINATION

The Authority shall consult and coordinate its actions to secure funding for the completion and improvement of the priority regional projects with the California Transportation Commission, transit operators and other interested and affected parties for the purpose of integrating its transportation improvements with other planned improvements and operations impacting the county. In addition, the Authority shall seek all ways to expedite the completion of Expenditure Plan projects, the implementation of which is the responsibility of other agencies. Use of acceleration as described in Section 5.A.1.e as well as supporting and advocating for Caltrans to contract out are both means through which the Authority can work to achieve timely project implementation.

SECTION 22 – ALLOCATION OF RELEASED FUNDS

If additional funds become available for a specific project or projects on the Expenditure Plan, the Authority may reallocate the retail transactions and use tax funds released by the receipt of those additional funds. In the allocation of the released funds, the Authority shall give first priority to Expenditure Plan Project and Programs which provide congestion relief in the geographic region which received the additional funds. Second priority shall be given to other projects and programs within the affected geographic region which may be placed on the Expenditure Plan through the amendment process described in Section 8. Third priority shall be given to all other Expenditure Plan Projects and Programs. Fourth priority

shall be given to other projects of regional significance which may be placed on the Expenditure Plan through the amendment process described in Section 8.

SECTION 23 – ALLOCATION OF EXCESS FUNDS

In the event, that the retail transactions and use tax revenues generated by this Ordinance are greater than projected or contingency fund requirements are less than projected, the Authority may allocate those excess funds. Determination of when the contingency funds become excess funds shall be established by a process to be developed by the Authority.

In the allocation of excess funds, the Authority shall give first priority to Expenditure Plan Projects and Programs, and second priority to other projects of regional significance which are consistent with the Comprehensive Transportation Plan of the Authority and may be placed on the Expenditure Plan through the amendment process described in Section 8.

SECTION 24 – TRANSPORTATION AUTHORITY EMINENT DOMAIN

The Authority will not use its power of eminent domain as provided in Public Utilities Code Section 180152.

SECTION 25 – SUNSET OF THE AUTHORITY

In the event that this Ordinance does not succeed in obtaining a majority of the vote of the electorate at the November, 1988 election, the legal entity known as the Contra Costa Transportation Authority will sunset within 30 days after the election.

SECTION 26 – CALDECOTT TUNNEL

The Authority shall make every effort to secure state and/or federal funds to increase the capacity of the Caldecott Tunnel. The Authority shall work with other affected jurisdictions, particularly Alameda County and the City of Oakland to assist this effort. The Authority may, subject to the provisions of this Ordinance, loan funds to the State of California to commence the preliminary planning for this project.

SECTION 27 – MAJOR ARTERIALS

The Southwest Regional Transportation Planning committee will determine the financial programming of the Major Arterials – Southwest Region Project. For the Southwest Arterial Projects, it is the intent of the Authority that local jurisdictions give priority to the following projects: Widen San Ramon Valley Boulevard from Hartz to Alcosta; widen Dougherty Road from the County line to Crow Canyon Road; widen Crow Canyon Road from the County line to Bollinger Canyon Road; widen and eastbound Route 24 off-ramp at Brookwood and upgrade signals; and improve the St. Marys Road-Glenside Drive-Reliez Station Road corridor.

For the I-680 Corridor project, the central county Regional Transportation Planning Committee (TRANSPAC) may use up to \$20 million of I-680 central county funds for improvements to arterials. TRANSPAC will determine the programming of these funds.

SECTION 28 – DEFINITIONS

- A. Authority. Means the Contra Costa Transportation Authority. The Contra Costa Transportation Partnership Commission has been designated as the Contra Costa Transportation Authority by the Contra Costa County Board of Supervisors with the concurrence of a majority of the cities having a majority of the population within the incorporated area of the County.
- B. Bicycle and Pedestrian Trail Facilities. Means all purposes necessary and convenient to the design, right-of-way acquisition and construction of facilities intended for use by bicycles and pedestrians. Bicycle facilities shall also mean facilities and programs which help to encourage the use of bicycles such as secure bicycle parking facilities, bicycle promotion programs and bicycle safety education programs.
- C. Bonds. Means indebtedness and securities of any kind or class, including but not limited to bonds, notes, revenue anticipation notes, commercial paper, and certificates of participation.
- D. Comprehensive Transportation Plan. Means the long-range transportation planning document prepared and adopted by the Authority.

- E. Expenditure Plan. Means the expenditure plan required by Section 180206 of the Public Utilities Code to be adopted prior to the call of an election on this Ordinance. The expenditure plan includes the allocation of revenues for each authorized purpose.
- F. Highways and Arterials. Means all purposes necessary and convenient to the design, right-of-way acquisition, and construction of highway and arterial street facilities, including all interstate highway routes and any other facilities so designated in the Expenditure Plan.
- G. Local Street Maintenance and Improvements. Means all purposes necessary and convenient to the maintenance, operation and construction of local streets and roads and transit purposes. Local street and road purposes shall include all purposes allowable under Article XIX, Section 1(a) of the State Constitution.
- H. Transit. Means all purposes necessary and convenient to the construction, operation and maintenance of transit services and facilities including the acquisition of vehicles and right-of-way. Transit services include, but are not limited to, bus, light rail, rapid transit and commuter rail services and facilities.

PASSED AND ADOPTED by the Contra Costa Transportation Authority, the 3rd day of August, 1988 by the following vote:

AYES: Sharon Brown, Taylor Davis, Cathryn Freitas, Beverly Lane, David MacDiarmid, Anna McCarty, Sunne Wright McPeak, Ed Skoog, Tom Torlakson, Avon Wilson, and Ronald K. Mullin, Chair

NOES: None

ABSENT: None

/s/ Ronald K. Mullin
Chair

August 3, 1988
Date

ACKNOWLEDGEMENTS

Transportation Partnership Advisory Committee

CHAIR: Byron Campbell

Louise Aiello (County Planning Commissioner)
 Frank Baker (Paratransit Coordinating Council)
 Guy Bjerke (Chambers of Commerce)
 Ron Berkheimer (Contra Costa Taxpayers Association)
 Alternate: Don Christen
 Byron Campbell, Chair (Residents for a Better Contra Costa)
 Alternate: Colleen Coll
 Ernestine DeFalco (League of Women Voters)
 Alternate: Nancy Oswald
 Ed Dimmick (Citizens for a Better Walnut Creek)
 Alternate: Peggy Cappiali
 Bob Doyle (Save Mt. Diablo)
 Alternate: Mike Gleason
 Joseph Duarte (Farm Bureau)
 Mark Evanoff (People for Open Space)
 Alternate: Kent Fickett
 Lou Ferrero (Contra Costa Office on Aging)
 Alternate: Roberta Lumb
 Kevin Garrett (City of Hercules)
 Gary Gibbs (Coalition of Labor and Business)
 Peter N. Hellmann (Building Industry Association)
 Alternate: Rich Jensen

Darlyne Houk (Contra Costa Board of Realtors)
 Alternate: Roy McKinney
 Neal Johnson (Western Contra Costa Transportation Advisory Committee)
 Sarge Littlehale (Southwest Regional Planning Committee)
 Alternate: William C. Rust, Jr.
 Steve Ohmsted (East County BART Coalition/Highway 4 Task Force)
 Peter Oswald (Contra Costa Council)
 Alternate: Darryl A. Foreman
 Steve Roberti (Central Labor Council)
 Alternate: John A. Matheis
 Phyllis Roff (TRANSPAC)
 Keith Samson (Industrial Association)
 Laura Selfridge (Sierra Club)
 Alternate: Michele Perrault
 Tim Tinnes (Organization to Save Our Communities)
 Alternate: Bruce Benzler
 Brian Way (Oakley Municipal Advisory Council/TRANSPLAN)
 Alternate: Richard Dillon

Technical Coordinating Committee

The following members of the Technical Coordinating Committee assisted in the development of the Contra Costa Transportation Improvement and Growth Management Expenditure Plan.

CHAIR: Stanford Davis

Phil Agostini, Public Works Department, City of San Ramon
 Stanford Davis, Chair, Public Works Director, City of Antioch
 Tony Donato, City Manager, City of Pittsburg
 Anne Drew, Transit Manager, Eastern Contra Costa County Transit Authority (Tri-Delta Transit)
 Hilmer A. Forsen, Senior Transportation Engineer, State Department of Transportation District 4 (Caltrans)
 Dale Fousel, Access Coordinator, Bay Area Rapid Transit District
 Al Jelton, Public Works Department, City of Richmond
 Roy Parker, Dean Howland, Public Works Department, City of Concord
 Frank Kennedy, City-County Engineer's Liaison, City Engineer, City of Walnut Creek
 Doug Kimsey, Assistant Transportation Planner, Metropolitan Transportation Commission
 Steve Lake, Public Works Director, City of Danville
 Don Larson, AC Transit
 Alternate: Peter Tannen
 Marilyn Leuck, City Manager, City of Hercules
 Barbara A. Neustadter, Commission Executive Staff
 Alternate: Robert Chung
 Jim Robinson, City Manager, City of San Ramon
 Ron Serviss, Transit Manager, West Contra Costa Transit Authority
 Maurice Shiu, Assistant Public Works Director, Contra Costa County
 Alternate: Robert Faraone
 John Sindzinski, Contra Costa County Transit Authority
 Alternate: Mallory Nestor
 Mike Uberaga, City Manager, City of Concord

Commission Staff

Commission Staff members were loaned to the Commission by Contra Costa County and the City of Concord to assist in the development of the Transportation Improvement and Growth Management Program.

Barbara A. Neustadter, Executive Staff, County
 Robert Chung, Senior Staff, County
 Gregory R. Gleichman, Senior Staff, County

Laurel Weil, Commission Counsel, Concord
Diane S. Page, Secretary, County

The Transportation Partnership Commission would like to acknowledge the Contra Costa Council's generosity for providing funding to secure secretarial services and to Smith, Gray and Company for their assistance in the development of this program.

MEASURE C - 1990**THE 65/35 CONTRA COSTA COUNTY LAND PRESERVATION PLAN****TEXT OF PROPOSED ORDINANCE**

The People of the County of Contra Costa hereby ordain as follows:

Section 1 Title

This ordinance shall be entitled the "65/35 Contra Costa County Land Preservation Plan."

Section 2 Summary

Through this ordinance the people approve the policies contained in the 65/35 Contra Costa County Land Preservation Plan and direct the Contra Costa County Board of Supervisors to reflect those policies in the new general plan (the "New General Plan") for the County. These "65/35 Land Preservation Plan" policies are intended to:

- o Restrict urban development to 35% of the land in the County and preserve 65% of the land in the County for agriculture, open space, wetlands, parks and other non-urban uses;
- o Prohibit any changes to the 65/35 Land Preservation Plan standard except by a vote of the people;
- o Create an Urban Limit Line to identify the outer boundaries of urban development in the County;
- o Protect and promote the economic viability of agricultural land by appropriate standards and policies, including a policy that increases the minimum parcel size for prime productive agricultural land outside the Urban Limit Line to 40 acres;
- o Protect open hillsides and significant ridgelines throughout the County from development by zoning and other measures;
- o Manage growth in the County by allowing new development only when infrastructure and service standards are met;
- o Advise the Local Agency Formation Commission to honor the County's 65/35 Land Preservation standard, Urban Limit Line and growth management standards in annexation and incorporation decisions;
- o Promote cooperation between the County and cities to preserve agricultural and open space land, wetlands and parks, by requiring the County to pursue preservation agreements with cities where feasible; and
- o Safeguard the County's obligation to provide its fair share of safe, decent and affordable housing.

Section 3 Statement of Findings and Policy

The voters of Contra Costa County approve the 65/35 Land Preservation Plan based on the following facts and considerations:

- A. Contra Costa County (the "County") is nearing completion of a major revision of its general plan. The New General Plan will represent a comprehensive, balanced approach for accommodating the diverse variety of needs and interests of the people of the County. To maximize public participation in preparing the New General Plan, the County has held thousands of hours of public meetings and received extensive written comments on the New General Plan. All segments of Contra Costa County society have participated, including ranchers, developers, farmers, environmentalists, labor groups, cities, special districts, business and industrial associations. The proposed New General Plan expresses the variety of concerns and hopes stated in this public process. The proposed New General Plan consists of over 400 pages and represents years of research and analysis by the staff of the County Community Development Department and outside consultants. In addition, in accordance with the California Environmental Quality Act ("CEQA"), the County has prepared and circulated for public review a draft environmental impact report ("EIR") to assess the environmental impacts of the New General Plan. The draft EIR, comments and responses to comments have been circulated to agencies and individuals and readily available at County offices, libraries and other public places.

- B. During this process of preparing the New General Plan, the voters expressed a number of concerns related to future planning and development of the County. The most important of those concerns were:
- (1) Growing urbanization of the County is threatening the long term viability of the County's agricultural and open space land, parks, wetlands, hillsides and ridgelines. Preservation and buffering of agricultural land is critical to maintaining a healthy and competitive agricultural economy and assuring a balance in land uses in the County. Moreover, preservation and conservation of open space, wetlands, parks, hillsides and ridgelines is imperative to ensure the continued availability of unique habitats for wildlife and plants, to protect the unique scenery in the County and to provide a wide range of recreational opportunities for County residents.
 - (2) Growth is a natural and proper part of the life of the community. However, growth should be managed responsibly to preserve the quality of life for current and future generations. New development should be guided into appropriate locations, and should be allowed only after appropriate infrastructure (transportation, schools, water, fire and police protection) can be assured.
 - (3) There is a critical need to make decent, safe and affordable housing available to all Contra Costa County residents. Fair housing opportunities should prevail for all economic segments of the County, and housing should be available in reasonable proximity to employment centers. In addition, the County's land use policies should not restrict growth so severely that they preclude these affordable housing opportunities.
- C. The 65/35 Land Preservation Plan implemented in Section 4 is intended to address these concerns of the voters. The 65/35 Land Preservation Plan is intended to carry out the voters' desire to both preserve agriculture and open space land, parks, wetlands, hillsides and ridgelines, manage growth to protect the quality of life, and provide for the County's fair share of decent, safe and affordable housing.
- D. It is appropriate and reasonable to present to the voters for their approval the key policies that would guide the County's future under the New General Plan, as those policies are set forth in the 65/35 Land Preservation Plan. With the guidance and confirmation the voters can provide through approval of the 65/35 Land Preservation Plan, the County can complete the environmental review and detailed documentation necessary for implementing these principles.
- E. The approval of the 65/35 Land Preservation Plan by the voters is not intended to be an amendment of the County's existing general plan. Rather, the 65/35 Land Preservation Plan, if approved by the voters, is intended to be reflected in the County's New General Plan and will thereby become the official policy of the County with respect to the preservation of open space and agricultural lands and the protection of valuable environmental resources such as wildlife, wetlands, hillsides and ridgelines.

Section 4 Implementation of 65/35 Land Preservation Plan

To implement the 65/35 Land Preservation Plan, the following chapter is hereby added to the Contra Costa County Ordinance Code as Chapter 82-1 and numbered appropriately:

A. New General Plan

The County shall adopt a new general plan by December 31, 1990 (the "New General Plan").

B. 65/35 Land Preservation Plan

The policies contained in this chapter shall be reflected in the New General Plan, as ultimately adopted by the Board of Supervisors in accordance with the California Environmental Quality Act and State Planning Law.

(1) 65/35 Land Preservation Standard

Urban development in the County shall be limited to no more than 35% of the land in the County. At least 65% of all land in the County shall be preserved for agriculture, open space, wetlands, parks and other non-urban uses.

(2) Changes to the 65/35 Land Preservation Plan

No change shall be made in the New General Plan after its adoption that would result in greater than 35% of the land in the County being permitted for urban development. This limitation shall not prevent any increase in agriculture, open space, parks, wetlands or other nonurban uses to greater than 65% of the land in the County.

(3) Urban Limit Line

To ensure the enforcement of the 65/35 standard set forth in (B)(1) above, an Urban Limit Line shall be established, in approximately the location depicted on the illustrative 65/35 Contra Costa County Land Preservation Plan Map attached as Exhibit A. The Urban Limit Line shall be incorporated into the County's Open Space Conservation Plan. The Urban Limit Line shall limit potential urban development in the County to 35% of the land in the County and shall prohibit the County from designating any land located outside the Urban Limit Line for an urban land use. The criteria and factors for determining whether land should be considered for location outside the Urban Limit Line should include (a) land which qualifies for rating as Class I and Class II in the soil Conservation Service Land use Capability Classification, (b) open space, parks and other recreation areas, (c) lands with slopes in excess of 26 percent, (d) wetlands, and (e) other areas not appropriate for urban growth because of physical unsuitability for development, unstable geological conditions, inadequate water availability, the lack of appropriate infrastructure, distance from existing development, likelihood of substantial environmental damage or substantial injury to fish or wildlife or their habitat, and other similar factors.

(4) Growth Management

In accordance with the Contra Costa Transportation Improvement and Growth Management Program adopted on August 3, 1988, the County shall manage growth by allowing new development only when infrastructure and service standards are met for traffic levels of service, water, sanitary sewer, fire protection, public protection, parks and recreation, flood control and drainage and other such services. Land located inside the Urban Limit Line may be considered for changes in designated land uses, subject to County growth management policies and any other applicable requirements. Location of land within the Urban Limit Line shall provide no guarantee that the land may be developed. If land is developed within the Urban Limit Line, a substantial portion of this land shall be retained for open space, parks and recreational uses.

(5) Agricultural Protection Policies; Minimum Parcel Sizes

The County shall establish standards and policies designed to protect the economic viability of agricultural land. These standards and policies shall include a minimum parcel size for prime productive agricultural land located outside the Urban Limit Line to 40 acres. These standards and policies may also include, but shall not necessarily be limited to, preservation agreements, conservation easements, clustering, establishment of an agricultural soils trust fund, and agricultural mitigation fees.

(6) Hillside Protection

Development on open hillsides and significant ridgelines throughout the County shall be restricted, and hillsides with a grade of 26% or greater shall be protected through implementing zoning measures and other appropriate actions.

(7) Changes to the Urban Limit Line

There shall be no change to the Urban Limit Line that violates the 65/35 standard set forth in B(1) above. After adoption of the New General Plan, as long as there is no violation of the 65/35 standard, the Urban Limit Line can be changed by a 4/5 vote of the Board of Supervisors after holding a public hearing and making one or more of the following findings based on substantial evidence in the record:

- (a) a natural or man-made disaster or public emergency has occurred which warrants the provision of housing and/or other community needs within land located outside the Urban Limit Line,
- (b) an objective study has determined that the Urban Limit Line is preventing the County from providing its fair share of affordable housing, or regional housing, as required by state law, and

the Board of Supervisors finds that a change to the Urban Limit Line is necessary and the only feasible means to enable the County to meet these requirements of state law,

- (c) a majority of the cities that are party to a preservation agreement and the County have approved a change to the Urban Limit Line affecting all or any portion of the land covered by the preservation agreement,
- (d) a minor change to the Urban Limit Line will more accurately reflect topographical characteristics or legal boundaries,
- (e) a five (5) year periodic review of the Urban Limit Line has determined, based on the criteria and factors for establishing the Urban Limit Line set forth in B(3) above, that new information is available (from city or County growth management studies or otherwise) or circumstances have occurred, that warrant a change to the Urban Limit Line;
- (f) an objective study has determined that a change to the Urban Limit Line is necessary or desirable to further the economic viability of the East Contra Costa County Airport, and either (i) mitigate adverse aviation related environmental or community impacts attributable to Buchanan Field, or (ii) further the County's aviation related needs; or
- (g) a change is required to conform to applicable California or federal law.

Any such change shall be subject to referendum as provided by law. Changes to the Urban Limit Line under any other circumstances shall require a vote of the people.

(8) Annexations and Incorporations

The Local Agency Formation Commission ("LAFCO") shall be advised to (a) respect and support the County's 65/35 Preservation Standard, Urban Limit Line and growth management standards when considering requests for incorporation or annexation to cities or service districts, (b) apply the stricter of the growth management standards of either the County the incorporating city or the annexing city or service district, when considering requests for incorporation or annexations of land to cities or service districts, and (c) require unincorporated land located within the Urban Limit Line that is included in the incorporation of a new city or annexed to a city to provide a fair share of affordable housing when and if such land is developed.

(9) Housing

As required by the State Planning Act, the County shall periodically review and update the New General Plan to conform to state housing requirements and to ensure its capacity to accommodate a variety of housing types and prices throughout the County. In accordance with the provisions of B(7) above, the Board of Supervisors may make findings of necessity that the Urban Limit Line should be changed to allow the County to meet its fair share of affordable housing and other state housing requirements.

(10) Cooperation with Cities

To the extent feasible, the County shall enter into preservation agreements-with cities in the County designed to preserve certain land in the County for agriculture and open space, wetlands or parks.

C. Application to Projects Prior to Adoption of New General Plan

From the effective date of this chapter to adoption of the New General Plan, prior to issuing a permit for any project or adopting any legislation which requires an initial study under the California Environmental Quality Act, and prior to issuing a permit for any demolition, conversion, or change or use, and prior to taking any action which requires a finding of consistency with the general plan, the County shall adopt findings as to whether or not the proposed project or legislation is consistent with the policies established above.

D. Duration

The provisions of this chapter shall be in effect until December 31, 2010, to the extent permitted by law.

E. No Violation of Law by this Ordinance

- (1) Nothing in this chapter shall be construed or interpreted in such a manner as to operate to deprive any landowner of substantially all of the market value of his/her property or otherwise constitute an unconstitutional taking without compensation. If application of any of the provisions of this chapter to any specific project or landowner would create an unconstitutional taking, then the Board of Supervisors may allow additional land uses, otherwise adjust permit requirements or take such other actions to the extent necessary to avoid what otherwise might be construed to be a taking. Any such additional land uses or other adjustments shall be designed to carry out the goals and provisions of this section to the maximum extent feasible.
- (2) Nothing contained in this chapter shall constitute an amendment of the existing general plan. Upon approval of this chapter by the voters, the County shall take all necessary and appropriate steps to reflect the policies of the 65/35 Land Preservation Plan in the New General Plan for the County, consistent with the requirements of CEQA and the State Planning Law. Nothing contained herein shall prevent the County from complying with applicable requirements of state law relating to the adoption and amendment of general plans.

F. Definitions

- (1) As used in this chapter, the phrase "land within the County" shall mean all of the acreage within the boundaries of Contra Costa County except the water area of the County west of Stake Point.
- (2) As used in this chapter, the term "non-urban uses" shall mean rural residential and agricultural structures allowed by applicable zoning and facilities for public purposes, whether privately or publicly funded or operated, which are necessary or desirable for the public health, safety or welfare or by state or federal law.

Section 5 Amendment and Repeal

This ordinance may be amended or repealed only by a vote of the people, except as expressly provided herein.

Section 6 Conflicts with Other Measures

The following provisions shall apply in the event that the voters approve any other initiative or referendum related to the County's general plan contemporaneously with approval of this ordinance:

- (1) In the event that the voters approve any other initiative or referendum related to the County's general plan, or zoning, planning or land use regulations within the County contemporaneously with approval of this ordinance and this ordinance receives a higher number of votes than such other initiative or referendum, the provisions of this ordinance shall supersede and are hereby deemed to be inconsistent with the provisions of such other initiative or referendum, and no provision of such other initiative or referendum shall be implemented. This provision shall apply regardless of whether all or any part of this ordinance is invalidated by a court of competent jurisdiction.
- (2) In the event that the voters approve any other initiative or referendum related to the County's general plan contemporaneously with the approval of this ordinance, and such other initiative or referendum receives a higher number of votes than this ordinance, the provisions of this ordinance shall nevertheless be implemented to the maximum extent legally feasible.

Section 7 Severability

If any portion of this ordinance is hereafter determined to be invalid by a court of competent jurisdiction, all remaining portions of this ordinance shall remain in full force and effect. Each section, subsection, sentence, phrase, part or portion of this ordinance would have been adopted and passed regardless of whether any one or more sections, subsections, sentences, phrases, parts or portions was declared invalid or unconstitutional.

1. State of California Office of Planning and Research, General Plan Guidelines, Sacramento, June 1987, pages 14-18 (paraphrased).
2. Ibid., page 17.

2. PLANNING FRAMEWORK

TABLE OF CONTENTS

	<u>Page</u>
2.1 INTRODUCTION	2-1
2.2 PHYSICAL SETTING	2-1
General Purpose Jurisdictions	2-2
2.3 POLITICAL SETTING	2-5
Political History of Unincorporated Areas	2-5
Relationship Between the County General Plan and the Cities	2-6
Role of the Board of Supervisors, Planning Commissions, County Administrator, and Community Development Department	2-9
Role of Advisory Groups	2-13
Regional Planning Agencies	2-14
State Agencies that Exercise Direct Land Use Control in Contra Costa County	2-15
Federal Agencies that Exercise Direct Land Use Control in Contra Costa County	2-15
2.4 SOCIAL AND ECONOMIC SETTING	2-16
Population	2-16
Housing	2-16
Employment	2-19
Jobs/Housing Ratio	2-19

2. PLANNING FRAMEWORK

2.1 INTRODUCTION

This chapter provides some background information on Contra Costa County and sets the stage for the following General Plan goals, policies, and implementation measures. The chapter describes the physical setting of the County and its place in the Bay region; the political setting of the incorporated and unincorporated areas; the social and economic setting of the County residents. The chapter also summarizes as background, recent trends from 1980 to 1990 regarding population and housing growth within each of the 18 general purpose jurisdictions in the County.

2.2 PHYSICAL SETTING

Contra Costa County is adjacent to Alameda, San Joaquin, Sacramento and Solano counties in Northern California. The County stretches approximately 40 miles from west to east and approximately 20 miles from north to south. The County covers a total of 805 square miles, of which approximately 732 square miles (468,500 acres) are land, with the remainder consisting of water areas. In terms of how understanding this physical setting relates to the planning framework, it is important to keep in mind that the County has nominal control, if any, over growth and planning in adjacent counties and cities within the County. Nevertheless, growth and planning in these communities will impact the County and the realization of planning assumptions in this General Plan.

Contra Costa County contains a very diverse social and physical environment, although it is often perceived to consist of a series of affluent suburbs. While portions of western and central Contra Costa resemble many urban and suburban environments, the far eastern corner of the County more closely resembles the predominantly agricultural communities of the San Joaquin Valley.

GENERAL PURPOSE JURISDICTIONS

This Plan uses the common distinction made by residents to differentiate between the various geographic sub-areas of the County. Six different sub-areas of Contra Costa are illustrated in Figure 2-1. The County is usually considered as comprising three distinct areas: West County, Central County, and East County. Central County is further generally considered as comprising North Central County, Lamorinda, and the San Ramon Valley. East County is composed of the Pittsburg-Antioch area and "Other East County." Each of these areas is described below.

West County

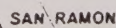
The West County area includes the urbanized shoreline of the San Francisco and San Pablo Bays, which is separated from the rest of the County by the Briones Hills and the open space watershed lands owned by the East Bay Municipal Utility District. West County was among the first areas of the County to develop with medium density suburbs and industry. The western sub-area includes the cities of El Cerrito, Richmond, San Pablo, Pinole, and Hercules, as well as the unincorporated communities of Kensington, El Sobrante, Rodeo, Crockett, and Port Costa.

Central County

The Central County area is the largest of the three areas, including ten of the eighteen cities in Contra Costa and over half of the total population. Central County is composed of mostly low density bedroom communities that have developed in the flat valleys between the East Bay Hills and the Diablo Range to the east, extending north and south of Mt. Diablo. The cities within this area are as follows:

- o Lamorinda: Lafayette, Moraga and Orinda, as well as the unincorporated area of Canyon;
- o North Central County: all of the cities and unincorporated communities along the northern Interstate 680 corridor – the cities of Walnut Creek, Concord, Clayton, Pleasant Hill, and Martinez and the unincorporated areas of Pacheco, Vine Hill, Clyde, the Pleasant Hill BART station, and Saranap;
- o San Ramon Valley: unincorporated Alamo, the cities of Danville and San Ramon, and the unincorporated Blackhawk and Tassajara area.

Sub-Areas of Contra Costa County



East County

East County is the largest land area in the County and includes much of the hilly terrain of the Diablo Range:

- o Pittsburg-Antioch area, which stretches along Route 4 from the Willow Pass grade northeast of Concord to Route 84 near Oakley. The Pittsburg-Antioch area includes the two cities, as well as the unincorporated community of West Pittsburg.
- o "Other East County" refers to the remainder of the East County sub-area, which includes the city of Brentwood, and the unincorporated areas of Oakley (including the Oakley Community Center area), Bethel Island, Knightsen, Byron, and Discovery Bay.

2.3 POLITICAL SETTING

This section first discusses as background, the political history of the unincorporated areas, and their involvement with the cities. Then the relationship between the County General Plan and the cities within the County is described. Finally, the section discusses the major local, regional and State governmental agencies and groups that make or affect planning decisions for the unincorporated areas.

POLITICAL HISTORY OF UNINCORPORATED AREAS

The unincorporated area includes a variety of urban pockets within every County area. A number of physical and political factors have caused these geographic areas to remain unincorporated.

Urban Areas

Historically, many property owners have preferred that their area remain under the County's jurisdiction (unincorporated) rather than be incorporated into a city because, before the passage of Proposition 13 in 1978, property taxes were appreciably lower. Additionally, many property owners preferred the less developed character of these areas.

Cities chose not to annex particular unincorporated pockets for a number of other reasons. Sanitary sewers, curbs, gutters, sidewalks, street lights and other standard improvements were not required by the County at the time many of the unincorporated pockets were developed. As a result, cities were hesitant to annex unincorporated pockets where major capital expenditures were

required to bring them up to city standards. Today, these factors continue to discourage the annexation of already urbanized unincorporated pockets by adjacent cities.

Rural Areas

Within Contra Costa County, the vast majority of unincorporated lands are located in rural (or non-urban) areas. These areas remain undeveloped or developed at very low densities. In the past, public policy has discouraged the annexation of the rural unincorporated areas to cities because most rural lands are located far from the boundaries of cities, often making the provision of urban services from cities physically impractical and economically unfeasible. It is for these reasons, as well as to discourage urban sprawl, that the Local Agency Formation Commission (LAFCO) has not assigned city spheres of influence for most unincorporated rural lands. This General Plan provides a framework for the interplay between growth management, the Urban Limit Line and the 65/35 Land Preservation Standard as General Plan policies affecting, among other things, growth in and the preservation of rural areas.

RELATIONSHIP BETWEEN THE COUNTY GENERAL PLAN AND THE CITIES

Planning is a required function of local government in California.¹ The Board of Supervisors and the Planning Commission, with the assistance of the Community Development Department, are responsible for planning for unincorporated areas. Likewise, each of the County's eighteen incorporated cities plans for lands within its own jurisdiction. Preparation of the General Plan required an understanding of the General Plans of these 18 cities and development and growth contemplated in those general plans. To develop that understanding, the County staff collected and summarized the Land Use Elements of the city General Plans in a document entitled Summary of City and County General Plans. Among other things, this document noted differences between County and City Plans for city Spheres of Influence as well as differences in County and city schemes for classifying land uses. To construct a uniform Countywide land use data base, the City General Plans were translated into uniform land use designations. The vacant lands within cities and the County were then "built out" to enable the County to develop estimates of population, jobs and housing in the County.

Spheres of Influence and LAFCO

A Sphere of Influence (SOI) boundary is adopted for each city and special district by the Local Agency Formation Commission (LAFCO) of Contra Costa County. The Sphere line includes lands outside the jurisdictional boundaries of the city or district which are expected to be ultimately annexed and served by the agency.

Local Agency Formation Commission (LAFCO)

The Local Agency Formation Commission was created by the Legislature in 1963 and is responsible for the discouragement of urban sprawl and the encouragement of the orderly formation and development of local governmental agencies. There is a LAFCO in each county in California except the City and County of San Francisco. LAFCO is a five-member commission comprised of two city council members, two supervisor members, and one public member.

The three acts that empower LAFCO to carry out its mandate are the Knox-Nisbet Act, the District Reorganization Act and the Municipal Organization Act. These laws require LAFCO to decide on proposals for: the incorporation of cities, the annexation or detachment of territory from a city, the consolidation of two or more cities, the formation of a special district, and the dissolution, reorganization, consolidation or merger of a special district.

In addition, the Commission has the responsibility of determining the sphere of influence, or ultimate service area boundary, of each city and special district in the County. In recent years, there have been a number of sphere of influence studies completed by LAFCO that have explored the ultimate service area boundaries for some of the major unincorporated areas.

City-County Development Procedures

Development within a city's Sphere of Influence may be approved and constructed under County jurisdiction or in the alternative, a developer may request that a project involving property within the Sphere be approved and annexed into the city. A city must then adopt a General Plan designation for the property (if the city's General Plan does not already indicate a designation for it) and pre-zone the parcel (indicate what the zoning will be when it is annexed). The County LAFCO then votes on the annexation request.

Also, there is an increasing effort for the County and cities, in certain circumstances, to conduct joint planning. By way of example, the County and the City of San Ramon have entered into a Memorandum of Understanding contemplating the joint planning for the Dougherty Valley Area. Figure 2-2 illustrates the relationship between a hypothetical incorporated territory, its Sphere of Influence and its extended planning area. Figure 2-3 illustrates all of the Sphere of Influence boundaries for the 18 cities and their unincorporated and incorporated limits. Due to the fact that these SOI boundaries often change, the reader should consult with LAFCO or the County to determine the most current SOI information.

Trends In City Growth

Over the last decade as unincorporated land areas adjacent to cities have been annexed and developed, and the incorporation of new cities has been approved, the County's role in approving and servicing new residential areas has shrunk dramatically. In 1980, approximately 44 percent of all the housing that was built occurred under County jurisdiction, with the remainder (56 percent) approved by the cities.

The cities' portion of residential growth climbed to 67 percent of the total in 1982, and reached 77 percent in 1984, following the incorporation of Danville and San Ramon. Since 1984, the portion of growth occurring in the County as compared with the cities has remained steady at a ratio of about three quarters of the new housing developed within the cities and one quarter built in the County. This illustrates that since the County has very little control over the type or extent of development that occurs within city boundaries, to a large extent it cannot control the growth which occurs within cities.

City-County Issues Related To Measure C - 1988

Measure C - 1988 added one-half cent to the sales tax within the County for the purpose of funding needed transportation improvements. Approximately 18 percent of the approximately \$800 million collected through the 20-year term of the tax can be allocated to cities and the County if they have adopted Growth Management Elements in their local General Plans. The measure sets forth specific intersection traffic service levels keyed to land use type. In general, the lowest levels of service are allowed in the highest density areas (central business district) and highest in the lowest density areas (rural). Projects which would affect traffic service levels at intersections must

include mitigation measures for the effects, or they cannot be approved. Additional standards for sewer water, storm drainage, police, fire, and parks must also be included in local General Plans, although the measure gives these services to the local agency.

City-County Issues Related to Measure C - 1990

Measure C - 1990 established a 65/35 Land Preservation Standard which limits urban development to no more than 35 percent of the land in the County and preserves at least 65 percent of land in the County for agriculture, open space, wetlands, parks and other non-urban uses. The urban areas within cities (and the urban growth of cities in the County) is factored into this 35 percent ceiling for urban growth in the County. (See Land Use, Open Space Elements.)

Measure C - 1990 (and therefore this General Plan) also provides that the County shall, to the maximum extent feasible, enter into preservation agreements with cities in the County designed to preserve land for agriculture, open space, wetlands and parks.

This General Plan, in accordance with Measure C - 1990, also provides for County - City cooperation on growth policies through the annexation and incorporation process. (See Section 3, Land Use Element.)

ROLE OF THE BOARD OF SUPERVISORS, PLANNING COMMISSIONS, COUNTY ADMINISTRATOR, AND COMMUNITY DEVELOPMENT DEPARTMENT

Board of Supervisors

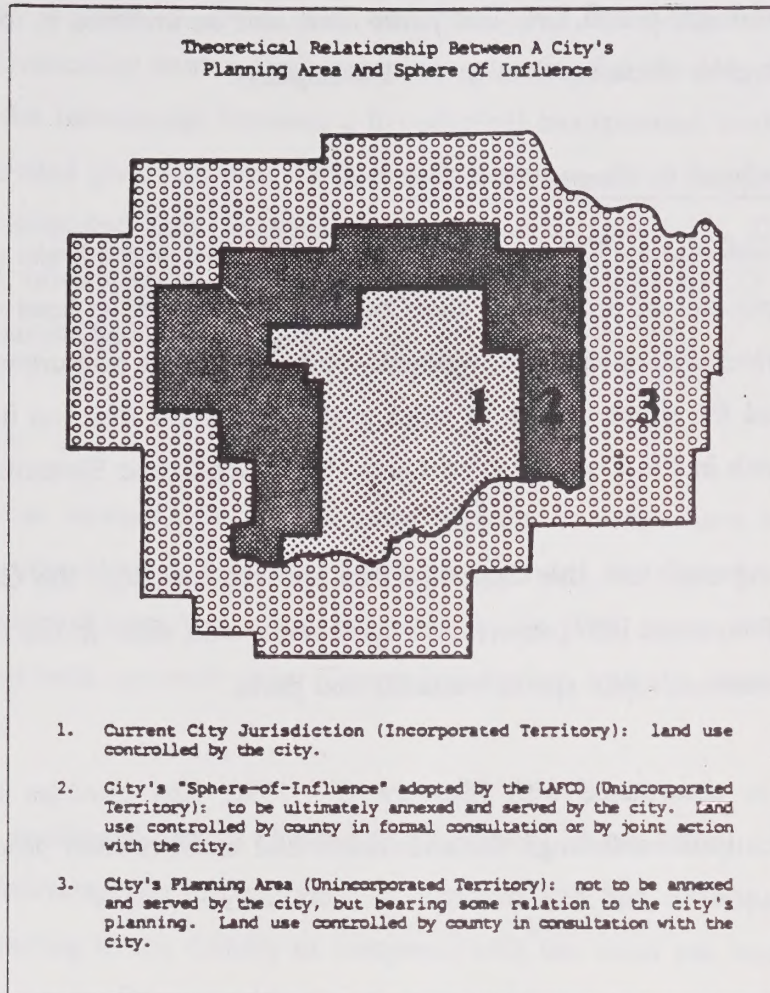
The Board of Supervisors, a five-member body, has direct jurisdiction for land use in unincorporated areas. As the County's legislative body, it is the Board of Supervisors that ultimately adopts the General Plan and acts on zoning and subdivision matters for unincorporated areas.

County Planning Commission, Area Commissions

The Planning Commission advises and makes recommendations to the Board of Supervisors on the General Plan, zoning, and subdivision proposals. Certain other decisions made by the Commission are subject to appeal by the Board of Supervisors. The Planning Commission consists of seven members, each appointed by the Board of Supervisors.

Figure 2-2

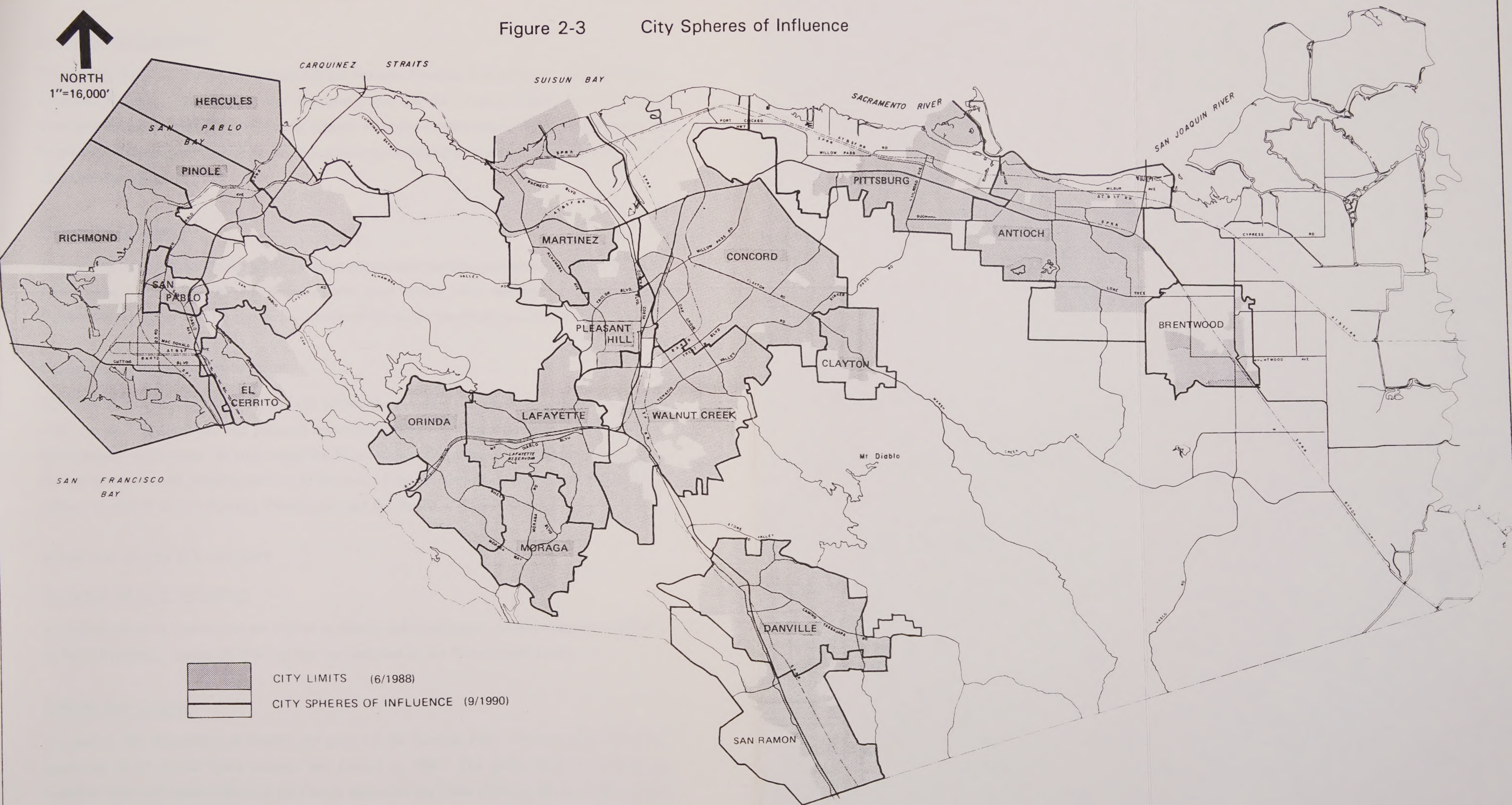
Conceptual City Jurisdiction, Sphere of Influence and Planning Area Relationships





NORTH
1"=16,000'

Figure 2-3 City Spheres of Influence



CONTRA COSTA COUNTY
CALIFORNIA

Area Planning Commission

The County Board of Supervisors has established two area Planning Commissions: the East County Regional Planning Commission (nine members) and the San Ramon Valley Area Planning Commission (seven members). While the County Planning Commission reviews and recommends on matters of County-wide concern, the area planning commissions review entitlements within their respective jurisdictions.

Zoning Administrator

The Zoning Administrator holds public hearings on variance permits, development plans and minor subdivisions. The Zoning Administrator also may review and recommend environmental documentation under CEQA and make recommendations on development agreements.

Community Development Department

The Community Development Department advises the Planning Commission, carries out technical work on the General Plan, and prepares recommendations on current planning matters, such as development applications. In many cases, the Board of Supervisors has delegated the responsibility for day-to-day current planning matters to the staff of the Community Development Department, subject to appeal to the Planning Commission and the Board of Supervisors.

ROLE OF ADVISORY GROUPS

Municipal Advisory Committees

Municipal Advisory Committees are located in Oakley and Kensington. Another may be established in West Pittsburg. Duties of these groups are specified in the Government Code.

General Plan Congress

To assist in the formulation of policies and goals for the General Plan, a General Plan Congress, consisting of 67 Contra Costa citizens, was formed in 1986. The group discussed community opinions from the diverse regions of the County and aided the initial planning efforts of the County General Plan. The last meeting of the Congress was in January 1989. Many of the policies and goals generated by the Congress are reflected in this General Plan. Some of them have undergone revisions and additions over the course of the General Plan process.

REGIONAL PLANNING AGENCIES

There are a number of agencies that are mandated by State law to prepare areawide plans, with which local general plans should be coordinated. Included in this category are the Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC).

Association of Bay Area Governments (ABAG)

ABAG was created in January 1961. It was founded in recognition of the fact that the physical, economic and social well-being of the entire region and of its individual communities depends on continuing areawide cooperation and coordination. It provides a forum for addressing regional problems and for formulating and implementing regional development policies. ABAG's programs are financed by membership dues, special assessments, grants, other regional agencies, and the State and federal governments. Its governing board is composed of elected city and county officials. ABAG's regional growth projections serve as the foundation of federal and State mandated regional plans and review of federally funded programs in the region. As the council of governments for the Bay Area, ABAG is sometimes required by State law to perform certain functions for the region. For example, ABAG is required to determine existing and projected housing need for the region and for each jurisdiction. In turn, local governments are required to use this information as a basis of the housing needs discussion required in the Housing Element. An explanation of the use of the ABAG projections in the County's projections is contained in the Land Use Element.

Since 1967, there has been a regional plan for the San Francisco Bay Area. Produced and maintained by ABAG, the Plan seeks to guide the economic, social, and environmental future of the nine-county region. Specifically, the Plan provides regional goals, objectives and policies on the following topics: (1) housing, (2) economic development, (3) environmental quality, (4) safety, (5) recreation, (6) transportation, and (7) health.

In addition to regional policies, the Plan also presents policies for subregions. These subregional policies determine what short-range actions are necessary to implement long-range regional policies.

The Regional Plan of Contra Costa County is divided into three subareas: (1) West County, (2) Central County, and (3) East County. At present, there are no policies for the first subarea, while for the Central and East County there are very specific policies that ABAG and the Metropolitan Transportation Commission (MTC) will apply when evaluating important public service improvements (e.g., water, wastewater, and transportation) which need federal funding. These policies were originally developed as part of a planning study conducted by ABAG and MTC in 1984, and basically seek to coordinate the provision of public facilities with land use decisions in order to concentrate development in urban areas and to preserve natural and scenic resources.

Metropolitan Transportation Commission (MTC)

MTC carries out comprehensive transportation planning for the nine-county, San Francisco Bay Area. MTC is required to prepare a Regional Transportation Plan and Transportation Improvement Program covering highways, selected mass transit, railroads and aviation facilities and services. All street, highway, and most mass transit projects supported by Federal and State transportation grants must be consistent with these plans and program.

STATE AGENCIES THAT EXERCISE DIRECT LAND USE CONTROL IN CONTRA COSTA COUNTY

State agencies having direct control over land use in Contra Costa County include, without limitation, the Department of Parks and Recreation, which maintains Mt. Diablo Park and Franks Tract; the Department of Fish and Game, which regulates stream bank alteration; and Caltrans, which regulates freeway right of ways.

FEDERAL AGENCIES THAT EXERCISE LAND USE CONTROL IN CONTRA COSTA COUNTY

Federal agencies having regulatory authority affecting land use and growth issues in Contra Costa County include, without limitation, the Environmental Protection Agency, the Army Corps of Engineers, the Department of Fish and Wildlife, and the Bay Area Air Quality Management District.

2.4 SOCIAL AND ECONOMIC SETTING

POPULATION

Contrary to some common misconceptions, Contra Costa County has not been one of the fastest growing areas in California during the 1980s. During the period 1980 through 1990, California has grown by almost 4.4 million residents. More than half (59 percent) of this population growth, or about 2.6 million new residents, occurred in the five counties of Los Angeles, San Diego, Orange, San Bernardino, and Riverside in Southern California.

Only 12 percent of the State's population growth during the same period was in the San Francisco Bay region, which has grown by about 600,000 persons since 1980. The Bay Area is now home to 5.8 million residents scattered throughout nine counties. Three of the counties in the Bay region have grown very slowly during the 1980s (Marin, Napa, and San Mateo), the four largest counties (Santa Clara, Alameda, Contra Costa, and San Francisco) have grown at a steady rate that has been less than the statewide average, while the remaining two northern counties (Solano and Sonoma) are experiencing very rapid growth rates, as they change from a rural to suburban environment.

Although Contra Costa's growth rate during the 1980 to 1990 period (15 percent) was higher than the regional average, it is interesting to note that in the East Bay, Alameda County has added 40 percent more residents (136,200) since 1980 than Contra Costa (97,200). Current (1990) population is estimated at 835,553. Table 2-1 shows the existing and projected demographic settings.

HOUSING

Residential growth in Contra Costa County has added 62,805 units of new housing between 1980 and 1990, for an average of nearly 6,300 homes completed each year. But homebuilding during the 1980s has fluctuated from one year to the next, consistent with the national economic climate. Residential construction began a nosedive during the early 1980s when very high interest rates and a national recession caused housing completions to reach their lowest point in 1982. By the end of 1984, however, the local homebuilding industry had recovered and the last half of the decade has seen a substantial increase in construction.

TABLE 2-1
DEMOGRAPHIC SUMMARY FOR CONTRA COSTA COUNTY
(1980-1990)

	<u>1980</u>	<u>1990</u>	<u>Change</u>	
			<u>#</u>	<u>%</u>
Population	656,380	802,933	146,553	22.3
Housing Units	251,918	314,723	62,805	24.9
Jobs	201,237	292,700	91,463	45.4

Source: U.S. Census, 1980; ABAG, Projections '90; California Department of Finance.

The area which has absorbed the most new housing during the 1980s has been the North Central sub-area, by far the most populous part of the County. Almost one-half of the County's housing stock is located in the communities between Walnut Creek and Martinez along the north I-680 corridor and in Lamorinda. The housing growth measured in this area since 1980 has been significant, approximately 17,800 housing units, although the rate of growth has been relatively low, only a 15 percent increase between 1980 and the end of 1990 (see Table 2-2). In contrast, the growth in the San Ramon Valley within Central County since 1980 has been a relatively small in comparison to the other three sub-areas of the County.

West County's growth has been similar to that in North Central County. East County, however, has grown quickly in the past ten years, and has almost doubled its housing stock. Overall, Contra Costa County increased its housing stock by 22 percent during the years 1980 through 1990.

In terms of the type of housing that has been constructed in Contra Costa County, in 1980 about three quarters (73 percent) of the new housing built in the County consisted of single family

TABLE 2-2
RESIDENTIAL GROWTH IN CONTRA COSTA COUNTY BY SUB-AREA
(1980-1990)

	<u>Housing Units (1980)</u>	<u>Growth in Housing (1980-1990)</u>	<u>Growth (% Increase)</u>
East County	47.6%	41,338	19,682
North Central	16.7	117,156	19,623
San Ramon Valley	49.2	21,589	10,627
West County	<u>12.9</u>	<u>71,835</u>	<u>12,873</u>
TOTAL	251,918 62,805	24.9	

Source: U.S. Department of Commerce, 1980 Census, Tape STF 3; Contra Costa County Community Development Department.

homes, 7 percent was condominiums or townhouses, and 20 percent was apartment units. Over the last ten years the mix of new housing has shifted significantly away from homes on individual lots toward attached housing (either condos or apartments).

During recent years, the portion of new housing that is condominiums has remained relatively constant (20 percent to 27 percent), but for the first time in 1987, new apartment construction outpaced single family homebuilding. Detached single family homes represented only 35 percent of all new construction in 1989, while apartments made up 39 percent and condominiums accounted

for 27 percent. Although rental apartment building has flourished during the mid-1980s, construction has begun to weaken in the last year due to changes in Federal tax laws.

EMPLOYMENT

In terms of employment growth since 1980, employment in the County has grown by approximately 21 percent (See Table 2-3). Much of the job increase has been measured in the categories associated with the tremendous office and retail development along the I-680 corridor. The number of jobs in the predominantly "white collar" FIRE category (finance, insurance, real estate) increased by 11 percent between 1980 and 1990. Likewise, the "transportation, communications, utilities" sector increased by 75 percent to 26,227 jobs. This latter category includes a major firm (Pacific Bell) that relocated thousands of office jobs to the Bishop Ranch Business Park in San Ramon.

Another area of job growth was registered in the "services" sector, where over 6,536 new positions were created. Within this category, the fastest growing employment areas were business services, health services, and engineering/accounting services. Large numbers of new jobs (over 5,863) were also added in retail trade, primarily through positions created in the restaurant/bars sector.

Manufacturing and wholesale trade continue to be important employers, although overall the number of manufacturing and wholesale trade jobs in the County has remained stable over the last ten years. The strongest growth occurred in the petroleum refineries, where over 2,000 jobs were added. Older industries such as metal fabrication, however, showed significant job losses as did some large high technology "instruments" producers, who cut work forces during the 1980s.

JOBS/HOUSING RATIO

Growth policies of this General Plan will not significantly change the Countywide jobs/housing ratio. Over the next 20 years, the jobs/housing ratio is expected to reach approximately 0.74 jobs per employed resident, only a slight improvement over the ratio for the existing land use plus approved projects. In most areas of the County, recent and projected job growth will be matched by an equal amount of housing growth, so the ratio will remain roughly the same.

TABLE 2-3
EMPLOYMENT GROWTH BY INDUSTRIAL SECTOR
(1980-1990)

	1980	1990	Change	
			#	%
Agriculture/Mining	3,567	4,920	1,353	37.9
Mfg./Wholesale Trade	33,778	39,110	5,332	15.8
Transportation/Communication/Utilities	10,918	28,350	17,432	159.7
Retail Trade	44,297	60,160	15,863	35.8
Services	59,844	86,420	26,576	44.4
Government	16,887	18,190	1,303	7.7
Other	<u>31,946</u>	<u>55,550</u>	<u>23,604</u>	<u>73.9</u>
TOTAL	201,237	292,700	91,463	45.4

Source: ABAG Projections '90

The jobs/housing ratio under the buildout of the General Plan will become "better" in West County as more jobs are created, and will become stabilized in Central County. But in the fastest-growing areas of Pittsburg-Antioch and the remainder of East County, so much new housing is planned that employment will continue to lag far behind. For every new job created in the Pittsburg-Antioch area, two new workers are expected to move in. However, the lopsided jobs/housing ratio in the East County communities of Oakley, Brentwood, and Discovery Bay will continue through the early years of the next century, with only one local job expected for each five new employed residents.

The projected jobs/housing ratio in eastern Contra Costa County should be improved, however, during the decades beyond the 15-year planning period of this General Plan. Based upon the market-driven construction trends in other parts of the County and region, the pattern of development in rural areas begins with the construction of suburban housing. As the influx of new residents creates the demand for new services, retail and other businesses follow the growing population base, although there can be a lag of five years or more between the construction of new housing and the creation of local jobs. This phenomenon occurred in the San Ramon Valley: the period of rapid suburbanization during the 1970s and the early 1980s has been followed by the location of numerous local and regional businesses in the valley during the 1980s.

As noted previously, this jobs/housing analysis assumes that some of the job-generating land uses in the County and Cities' General Plans (the vacant land that is planned for commercial and industrial growth) will not be developed during the next 15 years, because there is too much of this type of land (especially in East County) set aside for the market to absorb during that period.

1. State of California Office of Planning and Research, General Plan Guidelines, Sacramento, June 1987, page 7.

3. LAND USE ELEMENT

TABLE OF CONTENTS

	<u>Page</u>
3.1 INTRODUCTION	3-1
3.2 RELATIONSHIP TO OTHER GENERAL PLAN ELEMENTS	3-2
3.3 RELATIONSHIP TO AREA AND SPECIFIC PLANS	3-4
Area Plans	3-4
Specific Plans	3-4
3.4 ORGANIZATION OF ELEMENT	3-4
3.5 EXISTING LAND USE	3-5
General Inventory of Land Uses By Subarea	3-5
3.6 PLANNED LEVELS OF DEVELOPMENT	3-10
Methodology	3-10
Projected Demand for Conversion of Land Uses	3-11
Subarea Development Summary	3-11
Residential Growth	3-12
Commercial/Industrial Growth	3-14
The Urban Limit Line and Land Uses	3-14
Changes to the Urban Limit Line	3-16
3.7 LAND USE DESIGNATIONS - RESIDENTIAL DENSITY AND LAND USE INTENSITY	3-18
Residential Uses	3-26
Congregate Core	3-30
Commercial/Office/Industrial Uses	3-31
Mixed Uses	3-34
Public, Semi-Public, Landfill and Open Space Uses	3-36
3.8 LAND USE GOALS, POLICIES AND IMPLEMENTATION MEASURES	3-42
Goals	3-42
Policies	3-44
Implementation Measures	3-48
Policies for the East County Area	3-51
Policies for the Oakley-North Brentwood Area	3-52
Policies for the Bethel Island Area	3-54
Policies for the Southeast County Area	3-56
Policies for the West Pittsburg Area	3-59
Policies for the Morgan Territory Area	3-61
Policies for the Clyde Area	3-62
Policies for the Buchanan Field Area	3-62

TABLE OF CONTENTS (Continued)

	<u>Page</u>
Policies for the Center Avenue (Pacheco) Area	3-63
Policies for the Vine Hill/Pacheco Boulevard Area	3-63
Policies for the Pleasant Hill BART Station Area	3-64
Policies for the Oak Road Area	3-65
Policies for the Cherry Lane Area	3-65
Policies for the Saranap (Walnut Creek) Area	3-66
Policies for the Alamo-Diablo-Blackhawk Area	3-66
Policies for the Port Costa Area	3-70
Policies for the Briones Hills Area	3-71
Policies for the Crockett Area	3-73
Policies for the Rodeo Area	3-75
Policies for the El Sobrante Area	3-78
Policies for the North Richmond Area	3-79
 3.9 POLICIES FOR SPECIAL CONCERN AREAS	 3-80
Policies for the Appian Way Corridor	3-80
Policies for the San Pablo Dam Road	3-84
Policies for the San Pablo Ridge	3-85
Joint Planning Process	3-86
Policies for the Southeastern Concord/California State University - Newhall Ranch Plan Area	3-86

3. LAND USE ELEMENT

3.1 INTRODUCTION

State law requires every city and county to formulate and adopt a Land Use Element which, through the development of policies, plans, and standards, shows the proposed general distribution, location, density, and intensity of land uses for all parts of the jurisdiction. Section 65302(a) of the California Government Code reads:

"A Land Use Element shall designate the proposed general distribution and general location and extent of the uses of the land for housing, business, industry, open space, including agriculture, natural resources, recreation, and enjoyment of scenic beauty, education, public buildings and grounds, solid and liquid waste disposal facilities, and other categories of public and private uses of land."

The State Code further stipulates that Land Use Element shall include:

"A statement of the standards of population density and building intensity recommended for the various districts and other territory covered by the Plan. The Land Use Element shall also identify areas covered by the Plan which are subject to flooding and shall be reviewed annually with respect to such areas."

As with other elements of the General Plan, the goals, directive policies, and implementation measures of the Land Use Element are mandatory, rather than advisory. Under State law, many land use approvals made by planning commissions and boards of supervisors, including rezoning, subdivisions, development agreements, redevelopment and specific plans, park dedications, and others, must be consistent with and conform to the jurisdiction's General Plan.

This General Plan supersedes the County's prior General Plan (and each of the previously adopted elements such as the 1963 Land Use and Circulation Plan), including area general plans. The policies and maps of many prior general plan amendments and area plans have been reflected in

this General Plan. The Land Use Element retains consistency with, and reflects the general plan level of goals, policies and implementation measures as prior adopted Specific Plans.

3.2 RELATIONSHIP TO OTHER GENERAL PLAN ELEMENTS

Although the Land Use Element and its accompanying map are often thought by many to be the most important part of the General Plan, State legislation requires that the various elements comprise an integrated, internally consistent, and compatible statement of goals, policies, and programs. This means that each of the General Plan Elements are equal in legal status and that the direction given by one element may not be superior or subordinate to that of any other element.

Many of the issues that are discussed in the Land Use Element overlap issues that may be addressed in other General Plan Elements. Almost any issue dealing with the physical characteristics of land in the County will have land use implications, even if specific issues such as flooding or prime agricultural soils are not extensively addressed in the Land Use Element.

Readers of this General Plan should therefore be aware that the policies which may affect development of a specific property are not necessarily stated in only one portion of the maps and text in each element. The applicability of policies described in other elements should be taken into consideration when determining the General Plan policies for a particular area or property.

Readers are referred to the section in Chapter 1, Introduction, entitled "How to Use the General Plan" for a recommended process by which to begin determining the applicability of General Plan maps and policies to specific properties.

The Land Use Element contains the following components, suggested by the Governor's Office of Planning and Research (OPR) or required by statute:

- o inventory and distribution of existing land uses, including residential, commercial, industrial, open space and agricultural.
- o general assessment of housing needs based on projected community growth trends.
- o projections for land use and space for residential, commercial, and industrial development, based upon projections of future population and economic conditions.

- o population density standards for each land use category with residential potential.
- o land use goals and policies: County and Area Specific.
- o programs for implementation of the land use policies.

Description and analysis of additional land use components are located in the following General Plan Elements:

- o housing analysis - a detailed discussion is contained in Chapter 6, Housing Element.
- o educational facilities: assessment of the need for and diagram of existing and proposed future school sites is located in Chapter 7, Public Facilities/Service Element.
- o public buildings and grounds: assessment of existing sites and the location of approved and pending landfill applications is in Chapter 7, Public Facilities/Service Element.
- o infrastructure, water and sewer locations and projections, goals, policies and implementation measures are discussed in Chapter 7, Public Facilities/Service Element, in addition to the Growth Management Elements in Chapter 4.
- o natural resources: land uses associated with agriculture, vegetation and wildlife, fisheries, mineral and renewable energy, oil and gas, water (bay, delta, creek), and flood zones; discussed in Chapter 8, Conservation Element.
- o open space, Urban Limit Line, 65/35 Land Preservation Standard: analysis of existing and proposed open space land use is discussed and mapped in Chapter 9, Open Space Element, including recreational, scenic, and historic/cultural resources.
- o additional implementation programs relating to land use policies and infrastructure standards are located in Chapter 4, Growth Management Element.

The Elements are internally consistent and utilize the same population, housing, and employment projections (1990 Base Year). They support policies stated in the other elements, the land use plan maps and the accompanying text to represent a consciously selected balance among the various goals and objectives included in all of the Elements.

The balance between governing growth and preserving non-urban areas, for example, must reflect the key interplay in this General Plan between the 65/35 Land Preservation Standard, the Urban Limit Line, the Housing Element goals, and the Growth Management Element infrastructure requirements.

Additionally, the Land Use Element's relationship to the other elements of the General Plan provide that:

- o the land uses are based on the County's best currently available information concerning land use patterns;
- o actual land use and development decisions may depend upon information not currently available; and
- o the timing of development of the identified land uses will depend on satisfying the requirements of the Growth Management Element.

3.3 RELATIONSHIP TO AREA AND SPECIFIC PLANS

AREA PLANS

"Area General Plan" and "Area Plan" are terms for specialized plans that address a particular regions or communities within the overall planning area. An Area Plan is adopted in the same manner as a General Plan Amendment. The Area Plan refines the policies of the General Plan as they apply to a smaller area and is implemented by local ordinances regulating land use and subdivision. An Area Plan must be consistent with the General Plan of which it is a part.

The County has adopted Area Plans for 21 areas of the County. The main guiding policies of the Area Plans are reflected in the General Plan. The County intends that the Area Plans predating this General Plan are superseded and of no further effect.

SPECIFIC PLANS

A specific plan is a more detailed plan for a specific area within the County. Specific plans address the planning needs of a particular area, including necessary infrastructure and facilities, land uses and open space. Specific plans, while not a part of this General Plan, must be consistent with all aspects of the General Plan.

3.4 ORGANIZATION OF ELEMENT

The Land Use Element is organized in six parts. First, existing land uses are described. a general discussion is given of the various land use characteristics that exist in the West, Central and East

sectors of the County. Second, the projected levels of growth used in the General Plan for land uses in the sectors are described.

Also discussed are the County's Urban Limit Line (ULL) and the 65/35 Land Preservation Standard in relation to the Land Use Element. (Further discussion is also provided in Section 4.0, Growth Management Element and in Section 9.0, Open Space Element.)

The final three sections of this Land Use Element enumerate the goals, policies and implementation plans of the County.

These policies, which apply only to unincorporated areas, are implemented through other general plan and area plan policies; land use controls, such as the zoning and subdivision ordinances; the requirements within the public service and facility standards; and use of the ULL.

3.5 EXISTING LAND USE

For a summary description of the analytical basis of the existing land uses, see Chapter 3.6, Planned Levels of Development. Appendix C provides a complete description of the modeling framework used by the County. The General Plan generally recognizes the land use policies of the cities' plans within the city limits with some slight modifications to fit existing land use densities into consistent plan categories. Within cities, significant changes have been made to the prior County plan map in order to conform to the city General Plans. For example, the prior County plan indicated open space uses in the Hercules area; the Land Use Map has been updated to show all of the built and planned urban uses within the city limits.

GENERAL INVENTORY OF LAND USES BY SUBAREA

Ranging from urban to rural, land is used in Contra Costa County for many purposes. In the West and Central County areas, primary uses of suburban cities and towns are residential, commercial and industrial. In the East Central County and East County Area, land is used primarily for agriculture and general open space. References to land within the County or to percentages of the County refer to all of the acreage within the boundaries of the County except the water area of the County west of State Point.

As a whole, the County is relatively undeveloped. Although located in the San Francisco Bay Area, one of the most populated urban areas of the nation, approximately 25 percent of the County is devoted in 1990 to urban uses, while the balance is used for non-urban uses such as agriculture, wetlands, parks, recreation, or general open space and other non-urban uses. Non-urban uses shall also include rural residential and agricultural structures and facilities for public purposes, whether privately or publicly funded or operated, which are necessary or desirable for the public health, safety or welfare or required by State or federal law. None of the land is used for timber harvesting. The amount of land in each major land use category in the County is summarized in Table 3-1.

West County

Population

Approximately 212,000 people live in West County's urbanized areas. The largest city is Richmond and the smallest is El Cerrito. In the unincorporated developed areas, one of the largest areas is Rodeo. The smallest geographic areas have only a few residents.

Predominant Land Uses

West County consists of five suburban cities and towns, plus several unincorporated urbanized areas. This areas contains approximately 20 percent of the urbanized land in the County, and is developed with a wide variety of land uses. Most cities contain a proportional mix of principal urban land uses. However, in some cases, one use predominates. During the last two decades, urbanization has steadily moved eastward from the flat baylands into the foothills near Mt. Diablo. This elongated corridor of cities and towns is strung together by a network of major transportation routes linking the County directly to employment centers in San Francisco County.

1. Residential. Although the situation is slowly changing, Contra Costa has been comprised of "bedroom communities" populated by a commuter work force. There are approximately 81,000 households in West County. At least 40 percent of the work force still commutes each day, primarily to San Francisco and Alameda Counties. It is not surprising, then, that the West County is predominantly developed with residential land uses.

TABLE 3-1
CONTRA COSTA COUNTY EXISTING LAND USE (1990)

	<u>Acres¹</u>	<u>Percent of Total</u>
Residential ²	67,910	13.2
Local ³	15,100	10.3
Basic ⁴	14,800	14.3
Streets/Highways	24,300	0.5
Total Developed Land	122,100	25.4
Total Acreage	480,000	

¹ Acreages are rounded to nearest 10 acres.

² Residential land uses are occupied by single- and multiple-family homes including mobile homes.

³ Local Serving Employment land uses are occupied by local serving industries and businesses, including: 1) offices; 2) churches; 3) schools below the state level; 4) hospitals; 5) local and rapid transit; 6) communications and utilities; 7) restaurants; 8) banks, credit agencies, insurance brokers and agents' offices, and real estate offices; and 9) local government facilities.

⁴ Basic employment land uses are occupied by manufacturing industries and those which export products or act as suppliers to other regional industries, including: 1) heavy industry; 2) food processing; 3) high technology manufacturing; 4) miscellaneous manufacturing; 5) long distance transportation; 6) wholesale trade; 7) finance and insurance carriers, holding and other investment companies; 8) business services; 9) schools at the state level (4-year colleges and universities) and museums; and 10) federal and State governments.

Although land is used in West County towns and cities for a wide variety of purposes, residential uses cover approximately 25 percent of the total developed area. Densities are much higher in the northern cities of the County, particularly Richmond, and cities at the southern end of the area, which are much more suburban in appearance, tend to be less densely developed.

2. Commercial. Commercial uses account for approximately 10 percent of the developed land in West County. Commercial uses are found in the historic central business districts of each city and in a narrow business strip which runs the full length of I-80, West County's major north/south regional thoroughfare, and San Pablo Avenue, its major arterial roadway. Recently, major regional shopping centers have been built outside of these areas.
3. Industrial. Industrial uses also cover approximately 10 percent of developed land. Industrial uses are concentrated in a few industrial parks. The industries in these areas are predominantly light and relatively clean, and generally include warehouse; distribution facilities; assembling and processing plants; and offices.
4. Open Space. Shoreline and interior parks are interspersed in West County. Examples include San Pablo Reservoir and Briones Hills.

Central County

Population

A suburban population of approximately 460,000 people lives in the Central County area. Most of this population is concentrated in large subdivided areas strung along I-680, State Route 24, and State Route 4.

Predominant Land Uses

The suburban Central County Area is used predominantly for residential, commercial, recreation, grazing, or general open space.

1. Residential. As in the West County Area, residential development in the Central County area covers approximately 30 percent of the total developed land. There are approximately 168,000 households in Central County. Densities are the highest in the North Central area (between Walnut Creek and Martinez), and lowest in the San Ramon Valley area.
2. Commercial. Commercial uses account for approximately 11 percent of the developed land in the County. Commercial uses such as office parks and business strips are located on the major thoroughfares of I-680, State Route 242, and others. The major locations are in San Ramon Valley.
3. Industrial. The predominate industrial uses of Central County include Tosco and Shell Oil refineries in the northern part of Central County.
4. Open Space. Because of the Central County's hilly and large open space areas, and because of its proximity to urban areas, the State, County, and East Bay Parks and Recreation District (EBPRD) have open space uses.

East County

Population

Roughly 164,000 people live in the East County. Most of the population is concentrated in the Pittsburg-Antioch area. Less than 45,000 people live in the sparsely settled "Other East County," primarily in and around Oakley, the City of Brentwood, Byron, Knightsen, Bethel Island and Discovery Bay.

Predominant Land Uses

The East County Area is predominantly rural and devoted to agricultural, recreational, and open space uses. Development is concentrated in collections of small urban communities.

1. Residential. There are approximately 58,000 households in East County. Most of the residential areas are in the north end of East County in the Pittsburg-Antioch area.

2. Commercial. The largest commercial area on the East County exists in and adjacent to the central business district of Pittsburg-Antioch. Other neighborhood centers are scattered throughout the subregion.
3. Industrial. There is a major complex near the Pittsburg-Antioch area consisting of heavy chemical and steel industries and some light industry. West Pittsburg shoreline also has some heavy and light industrial facilities. Other smaller facilities are scattered throughout the remainder of the East County.
4. Open Space. Agricultural uses, farmland, and particularly grazing land, consume most of the acreage in the East County. Crops are grown on broad coastal terraces and in narrow alluvial stream valleys, while cattle grazing and dry farming occur on the surrounding foothills. Recreation uses in East County include the Delta area and the Antioch shoreline; a recreation facility at Big Break; Black Diamond Mines; the Contraloma area; plus a few others run by the East Bay Regional Park District.

3.6 PLANNED LEVELS OF DEVELOPMENT

METHODOLOGY

The analytical basis for determining the projected levels of development and land use was used consistently throughout other elements of this General Plan and is a modeling framework and database consisting of the following Elements: (See Appendix C for complete information on the modeling process.)

- o review of relevant data sources, including: summary of City and County General Plans; 1980 Census data; ABAG "Projections 1985, 1987, 1990; various map overlays depicting various environmental characteristics; and Contra Costa Land Information System, showing assessor parcel maps with building permit information.
- o development of Traffic Zone Boundaries. This is a modeling definition, which gives planners the most highly defined use of an area's land use, employment, housing, and population patterns.
- o establishing a 1990 Base Year Benchmark. Review of data sources as listed above, in combination with the traffic zone boundaries, provided information on land parcels as built to 1990.

- o to provide for the period, 1985 to 1990, the County modeling program utilized the above sources for determining exact projects under construction, projects approved, projects proposed, and lists of vacant land and their zoning designation, for both city and County lands.
- o projecting to the year 2005, the model assigned "default" values to all vacant land uses not covered by projects in the cities and the County, and developed a potential estimate of demand for these land uses. This provided projected population, housing, and employment generation estimates.

PROJECTED DEMAND FOR CONVERSION OF LAND USES

This Land Use Element and the other elements of the General Plan reaffirm many of the goals and policies of the prior County plan and plan amendments that have been adopted incrementally over the years. The General Plan will accommodate an ultimate population of approximately 990,000 persons.

The Growth Management Element, in regulating the timing of development to meet various infrastructure and facility standards, could affect whether the land use conversions set forth in this Element actually occur during the horizon of this General Plan. Development contemplated by this Land Use Element, even without possible timing delays caused by implementation of the Growth Management Element, would comply with the 65/35 Land Preservation Standard.

Table 3-2 shows the existing and project population, household and employment for the County as a whole.

SUBAREA DEVELOPMENT SUMMARY

The Contra Costa County Land Use Element map, at a scale of one inch to 4,000 feet, is included in the pocket at the back of this document. Note: The ability to develop under the land use designations shown on this Land Use Element Map could be affected by restrictions contained in the Growth Management Element, and many other factors.

As noted previously in Section 3.1, California planning laws advise counties to include incorporated cities within their General Plans, even though a county has land use jurisdiction only in the unincorporated areas. Thus, this General Plan covers all of Contra Costa County, and the following analysis includes the impacts of buildout of the 18 city plans.

RESIDENTIAL GROWTH

The Plan will, subject to compliance with growth management, the 65/35 standard, and other policies and standards, allow a significant amount of new housing development within the Urban Limit Line in the unincorporated Oakley area and smaller amounts of "in-fill" development in unincorporated West Pittsburg, Alamo, El Sobrante, Saranap, and other smaller unincorporated places.

West County

In North Richmond, hundreds of acres of vacant industrial land are expected to be developed or redeveloped during and after the planning period, as completion of a major flood control and freeway project makes the area more attractive to investors.

East County

Much of the future growth in the County is planned for the Pittsburg-Antioch and other areas of East Contra Costa, and, to a lesser extent, for the San Ramon Valley. Over 12,000 new housing units are expected in the Pittsburg-Antioch area, in addition to a similar number of units that are already under construction or have been recently approved by the Cities of Antioch and Pittsburg.

The remainder of East County includes the unincorporated Oakley, Bethel Island, and Discovery Bay communities, as well as the City of Brentwood. In this area approximately 29,000 homes are planned, which will result in a population increase of about 65,000 people. The General Plan calls for significant growth in the Oakley area south of Laurel Road, and also recognizes the growth projected by the City of Brentwood plan for area within its Sphere of Influence.

Central County

While residential growth has been very strong in the central portion of the County through the 1980s, many of the cities along the I-680 corridor are now reaching "buildout," as the last remaining lands are developed. During the course of the General Plan, the populous North Central area (between Walnut Creek and Martinez) is expected actually to lose population, as is West County,

TABLE 3-2
CONTRA COSTA COUNTY DEMOGRAPHIC PROJECTIONS

	<u>August 1990</u>	<u>ABAG 2005</u>	<u># Change</u>	<u>Percent Change</u>
Population	828,512	935,406	106,894	12.9
Housing Units	318,028	392,245	74,217	23.3
Jobs	304,814	389,664	84,850	27.8
Employed Residents	406,984	512,599	105,615	25.6

Note: These demographic projections could be affected by restrictions contained in the Growth Management Element.

Source: Contra Costa County Community Development Department, August 1990.

due to the decreasing average household size. However, housing growth will continue in both areas, as approximately 10,000 units are added in the North Central area and approximately 9,000 units are built in West County. This plan continues the policies of the Pleasant Hill BART Station Specific Plan, which allows high-density commercial and residential development in that unincorporated area.

San Ramon Valley

Very large residential projects that were approved in the San Ramon Valley during the early 1980s are expected to build out through the mid-1990s, after which the growth rate is expected to decline significantly. Vacant land that has been previously approved and planned for development in the valley is expected to add another 9,000 housing units during the planning period. The Plan indicates no further urban expansion in the unincorporated Tassajara area to the east and south of the final phase of the Blackhawk community.

COMMERCIAL/INDUSTRIAL GROWTH

In terms of future commercial and industrial growth, the General Plan is expected to result in the creation of approximately 86,000 new jobs over the next fifteen years.

It should be noted that the job projections included in Table 3-2 assume that only a portion of the vacant lands planned for commercial or industrial uses will be developed during the planning period. The General Plan projections assume that market constraints and other factors will limit the amount of commercial and industrial development that is planned in the fast-growing East Contra Costa area. Thus, some of the job growth is not expected until after the 15 year planning period, during the second or third decades of the next century.

THE URBAN LIMIT LINE AND LAND USES

It is imperative that the reader of this General Plan appreciate the interrelationship between the ULL, the 65/35 standard and the land use designations identified in this Land Use Element. The establishment of the ULL, community support for which was affirmed by the voters in their adoption of Measure C - 1990, is an integral feature of this Land Use Element. In general, the purpose of the ULL is twofold: (1) to ensure preservation of identified non-urban agricultural, open space and other areas by establishing a line beyond which no urban land uses can be designated during the term of the General Plan, and (2) to facilitate the enforcement of the 65/35 Land Preservation Standard.

To establish the location of the initial ULL, the County considered a number of criteria and factors. The factors for properties to be considered for location outside the ULL included: (1) land which qualifies for rating as Class I and Class II in the Soil Conservation Service Land Use Capability Classification; (2) open space, parks and other recreation areas; (3) lands with slopes in excess of 26 percent; (4) wetlands; and (5) other areas not appropriate for urban growth because of physical unsuitability for development, unstable geological conditions, inadequate water availability, the lack of appropriate infrastructure, distance from existing development, likelihood of substantial environmental damage or substantial injury to fish or wildlife or their habitat, and other similar factors. No one criterion was necessarily determinative of whether a property was located inside or outside the ULL. Where properties had characteristics that would locate them either inside or outside the ULL, the County, based upon the best information available at the

time, weighed the competing characteristics and determined the most appropriate location for the property.

During the term of the General Plan, properties that are located outside the ULL may not obtain General Plan Amendments that would redesignate them for an urban land use. In addition, those properties outside the Urban Limit Line may be subject to various agricultural and open space preservation measures identified in the other portions of the General Plan. These measures could include the following: (1) permitting owners of large acre parcels to subdivide and sell off two one-acre parcels from their property that could be developed with one residential unit on each parcel; (2) encouraging the dedication of open space and conservation easements; (3) implementing a transfer of development rights (TDR) program; (4) requiring payment of an agricultural mitigation fee for conversion of agricultural land; (5) promoting non-urban "preservation" agreements between the County and cities to prevent annexation by cities of certain appropriate properties; (6) promoting special legislation for preferential tax treatment for agricultural and open space lands; and (7) establishing an "agricultural soils trust fund" to fund possible purchase of easements or title to agricultural or open space lands. In general, the purpose of these measures is to preserve open space and agricultural lands and contribute to the continued economic viability of agricultural property. Inclusion of the measures in the General Plan does not necessarily mean that all or any one of them is endorsed by the County. Actual implementation of any of the measures will require further study and analysis and implementation through appropriate zoning measures.

Properties that are located inside the ULL would be governed by the land use designations contained in the General Plan. These properties would continue to be subject to the goals, policies and implementation measures of the General Plan as a whole. The fact that a property is located inside the ULL provides no guarantee or implication that it may be developed during the lifetime of the General Plan. Development of property within the ULL would be restricted by the limitations imposed by the County's Growth Management Program, as well as by other General Plan limitations. In addition, those properties within the ULL that do not currently have land use designations that would permit urban development would have to apply for and obtain a General Plan Amendment redesignating the property with a land use designation permitting development. Moreover, even if land is developed within the Urban Limit Line, a substantial portion of this land shall be retained for non-urban uses such as open space, parks and recreational uses. These

non-urban uses within the ULL shall be considered "non-urban" in monitoring the 65/35 Land Preservation Standard. This goal shall be applied within the ULL on a Countywide basis as it may be more or less applicable to various development projects within the ULL. Therefore, the only actual effect of locating a property within the ULL is that a General Plan Amendment may be considered for that property within the term of the General Plan, while no such application would be considered for property located outside the ULL.

CHANGES TO THE URBAN LIMIT LINE

There shall be no change to the ULL that would violate the 65/35 Land Preservation Standard. The ULL will only be able to be changed by a 4/5 vote of the Board of Supervisors after holding a public hearing and making one or more of the following findings based on substantial evidence in the record:

- (a) a natural or man-made disaster or public emergency has occurred which warrants the provision of housing and/or other community needs within land located outside the ULL;
- (b) an objective study has determined that the ULL is preventing the County from providing its fair share of affordable housing or regional housing as required by State law, and the Board of Supervisors finds that a change to the ULL is necessary and the only feasible means to enable the County to meet these requirements of State law;
- (c) a majority of the cities that are party to a preservation agreement and the County have approved a change to the ULL affecting all or any portion of the land covered by the preservation agreement;
- (d) a minor change to the ULL will more accurately reflect topographical characteristics or legal boundaries;
- (e) an objective study has determined that a change to the ULL is necessary or desirable to further the economic viability of the east Contra Costa County Airport, and either (i) mitigate adverse aviation related to environmental or community impacts attributable to Buchanan Field, or (ii) further the County's aviation related needs;
- (f) a change is required to conform to applicable California or federal law; or
- (g) a five (5) year periodic review of the ULL has determined, based on the criteria and factors for establishing the ULL set forth above, that new information is available (from city or County growth management studies or otherwise) or circumstances have changed, warranting a change to the ULL.

The Board of Supervisors shall consider an initial review of the ULL to be undertaken within 150-200 days following the effective date of this General Plan. A change to the ULL arising from this initial review will be subject to the 4/5 vote requirements following a public hearing and one or more of the findings in (a)-(g) above, based on substantial evidence in the record.

The initial ULL is shown on Figure 3-1. A larger scale map showing the initial ULL and any changes to the ULL can be obtained from the County Community Development Department. Table 3-3 shows the estimates of how the initial ULL relates to the 65/35 Land Preservation Standard in terms of acreage.

This percentage breakdown of land use translated to the acreage figures within and outside the ULL is provided in Table 3-3. The figures were developed by planimeter readings of the ULL as drawn on the Land Use Maps by the Contra Costa Community Development Department. They demonstrate that of the 480,000 acres in the County, 168,000 acres (35 percent) could be devoted to a maximum urban use under the interplay of the 65/35 standard with the ULL program. This would require future General Plan amendments. The calculations indicate that there are about 144,000 acres designated in the General Plan for urban use within the ULL, after deducting the existing 45,000 acres of agricultural and open space land inside the ULL.

65/35 Land Preservation Standard

The 65/35 Land Preservation Standard was a fundamental component of Measure C - 1990. The standard limits urban development in the County through at least the horizon of this General Plan to no more than 35 percent of the land in the County and requires that at least 65 percent of all land in the County shall be preserved for agriculture, open space, wetlands, parks and other non-urban uses. (For definitions, see Chapter 3.5) The Urban Limit Line works to enforce the 65/35 Land Preservation Standard and establish a line beyond which no urban land uses can be designated. The standard ensures that both within and outside the ULL, a maximum of not more than 35 percent urban development could occur in the County, irrespective of potential General Plan Amendments in the future. As described above, substantial portions of land to be developed within the ULL will be required for the open space, parks, recreation and other non-urban uses. The 65/35 standard operates on a Countywide basis and therefore includes urban and non-urban uses within cities as well as unincorporated areas.

TABLE 3-3
CONTRA COSTA COUNTY
ESTIMATES OF URBAN LIMIT LINE
IN RELATION TO 65/35 LAND PRESERVATION STANDARD

A.	Total County Land Area (100 percent)		480,000	acres
B.	Minimum Non-Urban Land (65 percent)		312,000	acres
C.	Maximum Potential Urban Land (35 percent)		168,000	acres
D.	Total Land Area in Urban Limit Line (ULL)	219,000		
E.	- Dedicated to Open Space in ULL	(29,982)		
	- Dedicated to Agricultural Use in ULL	(45,000)		
E.	General Plan Urban Use in ULL		144,018	acres
F.	Maximum Potential Urban Conversion Acreage ¹		23,982	acres

1. If GPAs were approved, this is the maximum amount of land within the initial Urban Limit Line that could be converted to urban use.

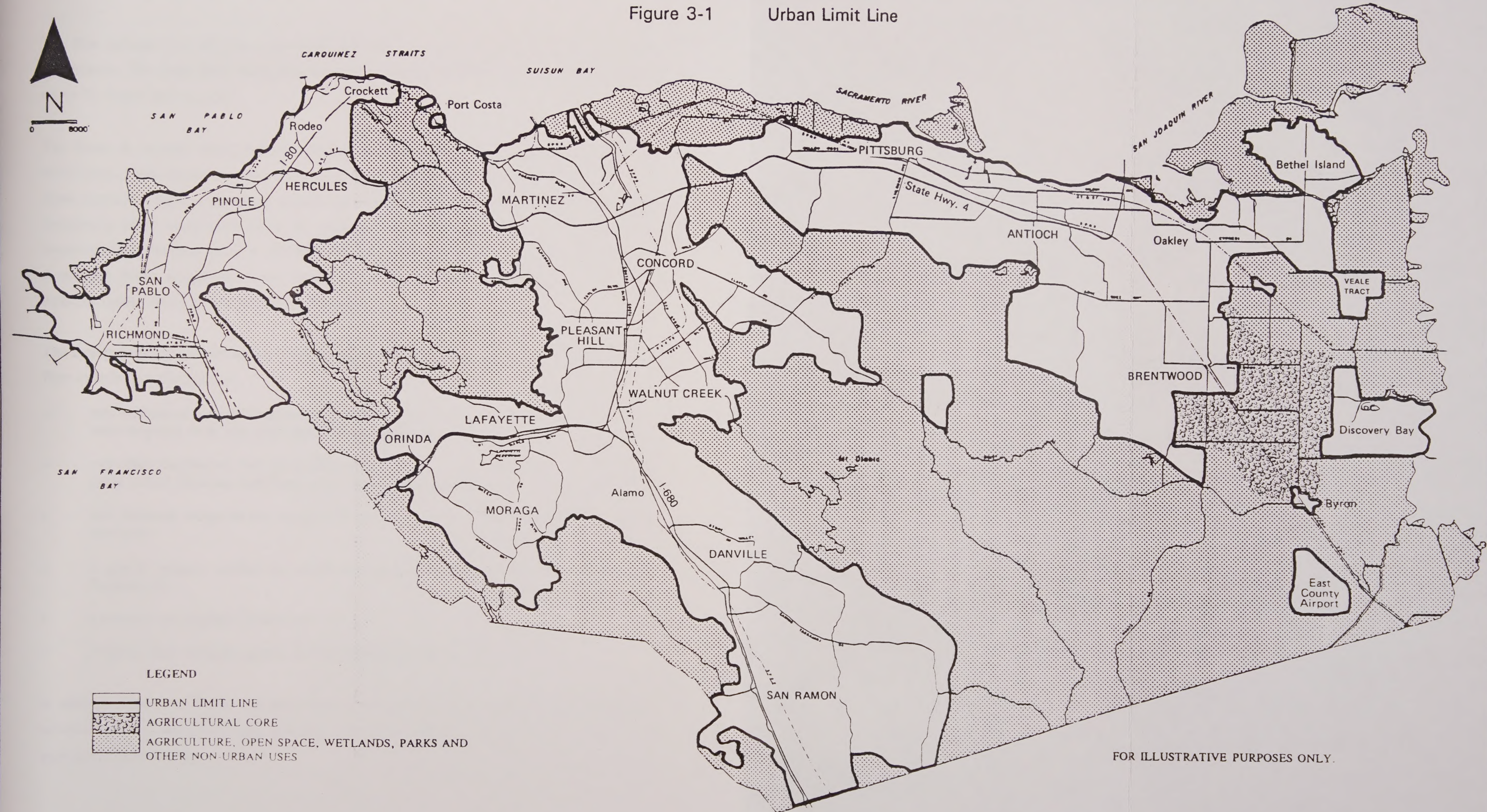
ULL 65/35 Land Preservation Standard, Growth Management and LAFCO

In accordance with Measure C - 1990, LAFCO shall be advised by the County to (a) respect and support the County's 65/35 Preservation Standard, Urban Limit Line and growth management standards when considering requests for incorporation or annexation to cities or service districts, (b) apply the stricter growth management standards of either the County, the incorporating city or the annexing city or service district, when considering requests for incorporation or annexations of land to cities or service districts, and (c) require that unincorporated land located within the Urban Limit Line that is to be incorporated into a new city or annexed to a city be used to provide a fair share of affordable housing when and if such land is developed.

3.7 LAND USE DESIGNATIONS - RESIDENTIAL DENSITY AND LAND USE INTENSITY

The following section describes the 29 land use designations which are used in this General Plan and on the accompanying Land Use Element map.

Figure 3-1 Urban Limit Line



CONTRA COSTA COUNTY
CALIFORNIA

The Plan includes four different single family residential designations, and seven multiple family designations. The single family categories range from a density of rural residences on one-acre lots up to 7.3 homes per net acre.

The Plans of multiple family (usually attached housing) designations range from low density townhouses, condominiums or trailer homes at a density of over seven units per net acre up to very dense apartment projects that could contain up to 100 units per acre. (The "Very High-Special" designation which would allow 45 to 100 units per acre is only applied in a limited number of locations within the cities and in the Pleasant Hill BART Station Area in the unincorporated area.) A multiple family designation is also included to describe congregate care projects at defined densities (senior housing with some shared facilities).

The largely commercial/industrial non-residential, job-generating land uses specified in this General Plan include nine designations:

- o two commercial (retail) designations which differentiate between regional- oriented, large-scale shopping malls and other lower-density retail centers;
- o two office designations that again differentiate between large-scale, master planned office parks (called "Business Park") and other office buildings or clusters of buildings ("Office");
- o two industrial categories that separate "heavy" from "light" manufacturing and wholesaling processes;
- o a special category applied to marina and shoreline-oriented retail uses ("Commercial Recreation");
- o a category for Airport Commercial;
- o a "Mixed Use" category applied in only eight specific areas of the County;

In addition, there is a "Public and Semi-Public" category; and eight categories that differentiate between types of non-urban uses, including rural, open space, parks, outdoor recreation, and agricultural-oriented uses.

Table 3-4 lists the 29 General Plan land use designations and the densities that are associated with each. The designations are closely related to the density requirements defined in the County's Zoning Ordinance, and are continuous, without gaps, across the density range. For example, the density requirements of units per net acre for the Single Family Residential - Very Low (0.2 - 0.9) and Single Family Residential - Low (1.0 - 2.9) mean that the very low designation will allow for densities ranging from 0.2 units per net acre up to but not including 1.0 units per net acre.

The densities of the General Plan's residential designations are generally defined in terms of housing units per net acre. Net acreage includes all land area used exclusively for residential purposes, and excludes streets, highways, and all other public rights-of-way. Net acreage for residential densities is assumed to constitute 75 percent of gross acreage for all uses, except for the multiple family designations, where it is assumed to comprise 80 percent. However, actual measurements used on an application may be based on analysis of the proposed development site plan.

When calculating the allowed density of a parcel, readers should keep in mind that unique environmental characteristics may justify a reduced number of units or intensity of use than is normally allowed under the General Plan designation. Notwithstanding this caveat, one single-family residential unit is allowed on any existing, legally created lot designated in all residential and open space categories. Variances from the minimum lot size and dimensional requirements are provided for in the County Zoning Ordinance, in accordance with State law.

The commercial and industrial General Plan categories are defined in terms of floor area ratio (FAR). The FAR is calculated by dividing the square footage of a building by the square footage of its lot. Thus, a structure composed of 10,000 square feet constructed on a 20,000 square foot lot has a FAR of 0.5.

Table 3-5 summarizes the relationship between the land use designations used in this General Plan and the zoning districts defined in the County's current Zoning Ordinance. The table outlines which specific zoning districts are already consistent with each General Plan designation and those which might be considered consistent with the Plan category, depending on the particular use.

TABLE 3-4
SUMMARY OF GENERAL PLAN LAND USE DESIGNATIONS

Abbreviation on Land Use Map		Units Per Net Acre ¹
SINGLE-FAMILY RESIDENTIAL		
SV	Very Low	0.2 - 0.9
SL	Low	1.0 - 2.9
SM	Medium	3.0 - 4.9
SH	High	5.0 - 7.2
MULTIPLE-FAMILY RESIDENTIAL		
ML	Low	7.3 - 11.9
MM	Medium	12.0 - 20.9
MH	High	21.0 - 29.9
MV	Very High	30.0 - 44.9
MS	Very High-Special	45.0 - 99.9
CC	Congregate Care-Senior Housing	N/A
MO	Mobile Home	1.0 - 12.0
COMMERCIAL/INDUSTRIAL		
RC	Regional Commercial	(subject to city plans)
CO	Commercial	0.1 - 1.0
ACC	Airport Commercial	.1 - 1.5
OF	Office	0.1 - 1.5
BP	Business Park	0.25 - 1.5
LI	Light Industry	0.25 - 0.67
HI	Heavy Industry	0.1 - 0.4
CR	Commercial Recreation	0.1 - 1.0
M1, etc.	Mixed Use (M1, M2, M3, etc.)	varies (see text)
LC	Local Commercial	varies (see text)
MC	Marina Commercial	varies (see text)
OTHER		
PS	Public and Semi-Public	
LF	Landfill	
BA	Off-Island Bonus Area	0.2
OPEN SPACE		
PR	Parks and Recreation	
OS	Open Space	
AL	Agricultural Lands	0.2
AC	Agricultural Core	0.025
DR	Delta Recreation	0.05
WA	Water	
WS	Watershed	

¹ Net acreage includes all land area used exclusively for residential purposes, and excludes streets, highways, and all other public rights-of-way. Net acreage is assumed to constitute 75% of gross acreage for all uses, except for the Multiple Family designations, where it is assumed to comprise 80 percent.

² Floor area ratio is calculated by dividing building square footage by lot size.

TABLE 3-5
CONSISTENCY BETWEEN THE GENERAL PLAN
AND THE ZONING ORDINANCE

<u>General Plan Land Use Designation</u>	<u>Zoning Ordinance Districts¹</u>	
	<u>Consistent</u>	<u>Could be Consistent²</u>
Single Family Residential		
-Very Low Density	R-40, R-65, R-100	P-1, all A districts
-Low Density	R-15, R-20, R-40	P-1, all A districts
-Medium Density	R-10, R-15	P-1, all A districts
-High Density	R-6, R-7, R-10, D-1	P-1, all A districts
Multiple Family Residential		
-Low Density	R-6, D-1, T-1, M-6, M-9	P-1
-Medium Density	T-1, M-9, M-12, M-17	P-1
-High Density	M-17, M-29	P-1
-Very High Density	M-29	P-1
-Very High Density-Special	P-1	
-Congregate Care-Senior Housing	P-1	
Mobile Home	T-1	P-1
Regional Commercial	C, O-1	P-1, R-B
Airport Commercial	P-1	
Commercial	C, C-B, R-B, N-B,	P-1
Office	O-1, A-O	P-1
Business Park	C-M, A-O	C, P-1
Light Industry	L-I	C, P-1
Heavy Industry	L-I, H-I, W-3	C, P-1
Commercial Recreation ³	C, C-B, N-B,	R-B, P-1

TABLE 3-5 (Continued)

<u>General Plan Land Use Designation</u>	<u>Zoning Ordinance Districts¹</u>	
	<u>Consistent</u>	<u>Could be Consistent²</u>
Mixed Use	P-1	all R, all M, all C and O, LI, P-1 Public and Semi- Public
Public		all
Parks and Recreation	all A districts	all
Open Space	all A districts	P-1
Agricultural Lands	all A districts	P-1
Agricultural Core	A-40, A-80	P-1
Delta Recreation	A-20, A-40, A-80	P-1
Water		P-1
Watershed	all A districts	P-1
Landfill	A-2	P-1

¹ This inventory presumes that four antiquated zoning districts will be deleted from the County Zoning Ordinance: F-R (Forestry-Recreation); U (Unrestricted); F-1 (Water Recreational); and A-1 (Light Agriculture).

² The zoning districts listed under the "Could be Consistent" column could be found consistent with the General Plan designation under certain circumstances, depending upon the specific use that is proposed.

³ A new district should be added to the Zoning Ordinance which would allow commercial uses specifically related to waterfront areas.

For example, R-6 and R-7 zoning districts (which require a minimum lot size for new housing units of 6,000 and 7,000 square feet, respectively) are already consistent with the General Plan category of "Single-Family Residential-High Density," because the zoning falls within the density mandated by the Plan designation (5.0 to 7.2 units per net acre). The County's Planned Unit (P-1) zoning district could be considered consistent with any of the General Plan designations. When considering standards referenced in Table 3-5 and in the category definitions, the P-1 district is intended to allow flexibility in the relationship of various buildings, structures, lot sizes, and open spaces while ensuring compliance with the General Plan and County codes and standards that protect public health, safety and the general welfare of the County. The County Community Development Department shall determine plan compliance to standards found in this plan, without exceeding the total density or intensity of the project site as a whole, as specified in the General Plan.

The County Ordinance Code specifies a range of uses which are allowed by right or through the granting of a land use permit within each zoning district. A major implementation measure included in this plan calls for the County Ordinance Code to be reviewed and revised to ensure that the provisions of the code conform to the intent and spirit of the Plan. However, as a matter of County policy, the staff reports prepared for all applications shall discuss whether the application complies with the spirit and intent of this updated General Plan. In instances where consistency between allowable uses under current zoning and the General Plan cannot clearly be determined (due to scope, scale or use), use permit applications shall either be denied or directed to apply for a rezoning.

RESIDENTIAL USES

The General Plan map utilizes ten designations of residential use, four of which describe single family densities and six describe multiple family densities. This excludes the Very High - special category used in cities, not in the unincorporated areas. The abbreviation in parentheses following the name of each land use designation is a code used on the General Plan land use map to identify the areas so designated.

The following two criteria define residential land use categories:

- o housing units per net acre (excluding the area required for local streets and other public uses, which is assumed to consume approximately 25 percent of the gross single-family and 20 percent of the multi-family residential area); and
- o the population density range (persons per net acre) which is associated with the category.

The prohibitions on attached or detached structures found within the residential plan categories can be modified if found to be appropriate, to comply with the General Plan intent, and to respond to site environmental factors, but only if considered through use of the Planned Unit District Zoning process.

It should be noted that the Planned Unit Development ordinance is intended to provide flexibility of site design, building massing, setbacks, height, etc. As indicated in Table 3-5 and discussed above, Planned Unit Development projects may be approved in any of the land use categories, provided that the overall density of the project is within the range specified in that category.

The residential land use designations are as follows:

a. Single-Family Residential-Very Low Density (SV).

This designation allows a maximum of up to 0.9 single family units per net acre. No maximum site area per unit is defined. With an average of 2.5 persons per household, population density would normally range between one to three persons per acre.

Primary land uses which shall be permitted in this designation include detached single family homes and accessory structures, and the keeping of a limited number of livestock, consistent with a rural lifestyle. Secondary uses generally considered to be compatible with very low density homes may be allowed, including home occupations, small residential care and childcare facilities, churches and other similar places of worship, secondary dwelling units and other uses and structures incidental to the primary uses.

b. Single-Family Residential-Low Density (SL).

This designation allows a range of 1.0 and 2.9 single family units per net acre. Sites can be as large as 43,560 square feet. Unique environmental characteristics of a parcel may justify larger lot sizes. With an average of 2.5 persons per household, population densities would normally range from about two to about 7.5 persons per acre.

Primary land uses which shall be permitted in this designation include detached single family homes and accessory structures. Secondary uses generally considered to be compatible with low density homes may be allowed, including home occupations, small residential care and childcare facilities, churches and other similar places of worship, secondary dwelling units, and other uses and structures incidental to the primary uses.

c. Single-Family Residential-Medium Density (SM).

This designation allows between 3.0 and 4.9 single family units per net acre. Sites can range up to 14,519 square feet. With an average of 2.5 persons per household, population densities would normally range from about 7.5 to about 12.5 persons per acre.

Primary and secondary land uses which shall be permitted in this category are the same as above in (b).

d. Single-Family Residential-High Density (SH).

This designation allows between 5.0 and 7.2 single family units per net acre. Sites can range up to 8,729 square feet. With an average of 2.5 to 3 persons per household, population densities would normally range from about 12.5 to about 22 persons per acre.

Primary and secondary land uses which shall be permitted in the Single Family Residential-High Density designation are the same as above in (b). In addition, in specified areas of the County with conventional zoning, attached single family units (duplexes or duets) may be allowed.

e. Multiple-Family Residential-Low Density (ML).

This designation allows between 7.3 and 11.9 multiple family units per net acre. Sites can range up to 5,999 square feet. With an average of 2.5 persons per unit, population densities would normally range between about 18.5 to about 30 persons per acre.

Primary land uses shall include attached single family residences (such as duplexes or duets), multiple family residences such as condominiums, town houses, apartments, mobile home parks, and accessory structures normally auxiliary to the primary uses. Secondary land uses which do not conflict with primary uses may be allowed, including churches, second dwelling units, home occupations, and group care and/or childcare facilities.

f. Multiple-Family Residential-Medium Density (MM).

This designation allows between 12.0 and 21.9 multiple family units per net acre. Sites can range up to 3,349 square feet. With an average of 2.5 persons per unit, population densities would normally range between about 30 to about 55 persons per acre.

g. Multiple-Family Residential-High Density (MH).

This designation allows between 22.0 and 29.9 multiple family units per net acre. Sites can range up to 1,979 square feet. With an average of 2.5 persons per unit, population densities would normally range from about 55 to about 75 persons per acre.

Primary and secondary land uses permitted in the designation are the same as in (f) above.

h. Multiple-Family Residential-Very High Density (MV).

This designation allows between 30.0 and 44.9 multiple family units per net acre. Sites and can range up to 1,451 square feet. With an assumed average of 2 persons per unit, population densities would normally range from about 60 to about 90 persons per acre.

Primary land uses shall include multiple family residences such as condominiums, apartments, and accessory structures normally auxiliary to the primary uses. Secondary land uses which do not conflict with primary uses may be allowed, including second dwelling units, home occupations, and group care and/or childcare facilities.

i. Multiple-Family Residential-Very High Special Density (MS).

This designation allows between 45.0 and 99.9 multiple family units per net acre. Sites can range up to 967 square feet. With an average of 2.0 persons per unit, population densities would normally range from about 90 to about 200 persons per acre.

Primary land uses shall include multiple family residences such as condominiums, apartments, and accessory structures normally auxiliary to the primary uses. Secondary land uses which do not conflict with primary uses may be allowed, including second dwelling units, home occupations, and group care and/or childcare facilities.

j. Multiple-Family Residential-Congregate Care (CC).

The density and uses allowed in this General Plan designation are limited specifically to those senior housing with shared facility projects outlined in the text of the individual plan amendments that are adopted for these uses.

k. Mobile Homes (MO).

This designation allows between one and 12 mobile home units per net acre. Minimum site size is 3 acres for a mobile home park and minimum lot size is 2,500 square feet. With an average of 1.8 persons per unit, population densities would normally range from 1.8 to 21.6 persons per acre.

1. Off-Island Bonus Area

A bonus density is identified in the off-island area of the Bethel Island planning area east of Jersey Island Road. The base density of this area is 1 dwelling unit per 5 acres. This density shall be increased through the bonus program if the applicant participates in one of the following programs:

Recreational Projects. Residential projects which include a distinct, identifiable recreational character by including substantial recreational facilities shall be allowed a density of 1.0-2.9 units per net acre. Recreational amenities may include marinas or launching areas off the project site on Sandmound or Rock Sloughs, a lake community, a sailing/boating club on a project lake, an equestrian facility, a tennis club or golf course.

Purchase of Development Rights. The development rights for one acre increments of land in the County with an Agricultural Land designation may be purchased and dedicated to the County to increase the base density up to 1/2 dwelling unit per net acre. Acquiring development right in one acre increments of land in the County with an Agricultural Core designation will increase the base density up to a maximum of 3 dwelling units per net acre. A program for acquisition of development rights shall be implemented by the Community Development Department.

CONGREGATE CARE

This category allows for the development of clustered residential units for the location of senior citizen congregate care housing projects. While this is a specific County general category, it is adopted with unique criteria for each site it is applied to. Those special criteria are:

a. La Casa Via Congregate Care

The actual number of units for senior citizen facility will be determined upon review of development applications on the site, however, a maximum of 200 units will be considered. If senior citizen housing is not constructed, the property will be limited to a single family residential unit per net acre as allowed by the pre-existing General Plan on the site. An expansion of the East Bay Regional Park District's trail, which goes parallel to Covey Court, will be required as part of this approval. Additional right-of-way and trail development is a responsibility of the property. Provision of a bike trail along La Casa Via is also required.

b. Alamo Villa

The actual number of units to be allowed on this site will be determined upon review of the development applications on the site. If senior housing is not constructed on the site, the property will be limited to 1 to 3 single family residential units per net acre.

A downtown park will be created within this amendment area. It will serve both the general public and the residents of the adjacent senior housing project and will be integrated into the design scheme for applications received under this plan

amendment. The exact size, location along Danville Boulevard, responsibility for capital, operation and maintenance costs, and required amenities will be resolved at the time of application review.

Development occurring under this amendment will need to be reviewed to ensure that extensive landscaping buffers are maintained and enhanced between the senior project and adjacent single family residences.

The historic structures which exist on site should be either integrated into the project design or moved to other locations within the Alamo community if feasible.

c. Perma-Bilt Congregate Care

The site is currently being developed as a congregate care facility and will be operational in 1991.

COMMERCIAL/OFFICE/INDUSTRIAL USES

This General Plan designates eight non-residential, job-generating land use activities. The designations are described in terms of uses allowed; the maximum coverage that a building may occupy on the parcel; the maximum floor area ratio; and the average number of employees per gross acre that could be expected.

a. Commercial (CO).

This designation allows for a broad range of commercial uses typically found in smaller scale neighborhood, community and thoroughfare commercial districts, including retail and personal service facilities, limited office and financial uses. The following standards shall apply to uses in this designation:

- | | | |
|-----|-----------------------------------|---------------|
| (1) | maximum site coverage: | 40 percent |
| (2) | maximum building height: | 35 feet |
| (3) | maximum floor area ratio: | 1.0 |
| (4) | average employees per gross acre: | 160 employees |

b. Regional Commercial (RC).

This designation allows large centers of commercial land use concentrations, including regional shopping malls and similar uses, with retail, personal service, financial and associated facilities, and hospitals. There are no regional commercial areas within the unincorporated County. The standards which apply to these areas are outlined in the respective city General Plans and zoning ordinances:

- | | | |
|-----|-----------------------------------|-------------------------|
| (1) | maximum site coverage: | (subject to city plans) |
| (2) | maximum building height: | (subject to city plans) |
| (3) | maximum floor area ratio: | (subject to city plans) |
| (4) | average employees per gross acre: | (subject to city plans) |

c. Local Commercial (LC)

The local Commercial designation in the Bethel Island Area allows for the continued maintenance of the existing commercial core along Bethel Island Road, at both ends of the bridge. Land uses under this designation shall support existing businesses and further the variety of services and retail products available to the residents and visitors. Limited local commercial may be considered in other portions of the off-island area if incorporated into a residential community.

d. Marina Commercial (MC)

Land uses with a Marina Commercial designation in the Bethel Island Area shall be tied directly to water-oriented activities such as boat sales, repairs, storage, fishing supplies and water skiing.

e. Commercial Recreation (CR).

This designation allows a range of privately operated recreational uses of a commercial character, including marinas and similar facilities, campgrounds, golf courses, outdoor sports and athletic complexes. The following standards apply to these areas:

- | | | |
|-----|-----------------------------------|--------------|
| (1) | maximum site coverage: | 40 percent |
| (2) | maximum building height: | 35 feet |
| (3) | maximum floor area ratio: | 1.0 |
| (4) | average employees per gross acre: | 15 employees |

f. Airport Commercial (ACC)

This category reflects commercial uses that could stand separate from the airport, but serve to support the airport function. The Sheraton Inn and adjacent lands are found within this designation.

- | | | |
|-----|-----------------------------------|--------------|
| (1) | maximum site coverage: | 30 percent |
| (2) | maximum building height: | 40 feet |
| (3) | maximum floor area ratio: | 0.67 |
| (4) | average employees per gross acre: | 45 employees |

g. Office (OF).

This designation allows office facilities of an administrative character including branch and head offices, multi-tenant structures and similar uses, and medical offices. The following standards apply:

- | | | |
|-----|-----------------------------------|---------------|
| (1) | maximum site coverage: | 40 percent |
| (2) | maximum building height: | 50 feet |
| (3) | maximum floor area ratio: | 1.5 |
| (4) | average employees per gross acre: | 100 employees |

h. Business Park (BP).

This designation allows a mix of commercial, office, and light industrial uses which, by the high quality of their development and the nature of their operations, demonstrate compatibility with adjacent commercial and residential uses. In addition, smaller commercial establishments which serve on-site employees such as business services and local-serving retail uses are allowed. Adherence to landscaping, buffering and design standards provide the means for achieving a high level of amenity for employees and neighboring uses. The following standards apply:

- | | | |
|-----|-----------------------------------|---------------|
| (1) | maximum site coverage: | 40 percent |
| (2) | maximum building height: | 60 feet |
| (3) | maximum floor area ratio: | 1.5 |
| (4) | average employees per gross acre: | 100 employees |

i. Light Industry (LI).

This designation allows light industrial activities such as processing, packaging, machinery repair, fabricating, distribution, warehousing and storage, research and development, and similar uses which emit only limited amounts of smoke, noise, light, or pollutants. The following standards apply:

- | | | |
|-----|-----------------------------------|--------------|
| (1) | maximum site coverage: | 50 percent |
| (2) | maximum building height: | 50 feet |
| (3) | maximum floor area ratio: | 0.67 |
| (4) | average employees per gross acre: | 60 employees |

j. Heavy Industry (HI).

This designation allows activities requiring large areas of land with convenient truck and rail access. These uses are typically not compatible with residential uses in close proximity and the operations conducted may be characterized by noise or other conditions requiring spatial separation. Uses may include metal working, chemical or petroleum product processing and refining, heavy equipment operation and similar activities. Light industrial warehousing uses are also allowed. The following standards apply:

- | | | |
|-----|-----------------------------------|--------------|
| (1) | maximum site coverage: | 30 percent |
| (2) | maximum building height: | 40 feet |
| (3) | maximum floor area ratio: | 0.67 |
| (4) | average employees per gross acre: | 45 employees |

MIXED USES

This General Plan utilizes a "Mixed Use" land use designation (abbreviated "M1", "M2", etc.) in the following unincorporated locations: along Parker Avenue in Rodeo (designated on the General Plan Map as M1); at the Pleasant Hill BART station (M3); along the Willow Pass Road Corridor in West Pittsburg (M5); the Cypress Corridor area between Oakley and Bethel Island (M8); and within a number of cities (e.g. the mixed use designation in downtown Pleasant Hill (M2)). The Mixed Use designations employed in the unincorporated areas are described below.

The purpose of the mixed use designation is to provide for the integration in a single project of both residential and commercial/office uses. In the mixed use category housing is specifically permitted but not required.

a. Mixed Use-Downtown Rodeo (M1).

The Parker Avenue Mixed Use district in Rodeo (M1 on the Land Use map) represents the revival of a once common concept: the placement of residential units over street level businesses. This designation applies to properties along a portion of Parker Avenue, and behind them along the flood control channel. Due to the limited frontage dimensions of existing parcels, it will be necessary to consolidate properties to create at least 100 feet of continuous frontage on Parker Avenue as a prerequisite for retail or office uses in this area. Without such consolidation, parcels will be restricted to multiple family residential uses in the high density residential ranges.

Additional development guidelines that are to be applied to projects proposed in this area are included under the "Policies for the Rodeo Area" in Chapter IV.

b. Mixed Use-Pleasant Hill Redevelopment Area (M2).

This use is described in plans adopted by the City of Pleasant Hill.

c. Mixed Use-Pleasant Hill BART (M3).

The Pleasant Hill BART station Mixed Use District (M3 on the Land Use map) applies to three sub-areas defined by the Pleasant Hill BART Station Specific Plan. The mixed use areas are located generally south of Las Juntas Way.

Specific development guidelines for these areas are included in the "Policies for the Pleasant Hill BART Station Area" section in Chapter 4.

d. Mixed Use-Walnut Creek Core Area (M4).

This use is described in plans adopted by the City of Walnut Creek.

e. Mixed Use-West Pittsburg (M5).

The Willow Pass Road Mixed Use Corridor designation ("M5" on the Land Use map) has been applied to many properties on either side of Willow Pass Road. A range of neighborhood shopping, residential, and office uses are permitted in this designation to stimulate the upgrading and redevelopment of properties. Development guidelines that are to be applied to projects proposed in this area are included under the "Policies for the West Pittsburg Area" section of Chapter 4.

f. Mixed Use-Downtown Clayton (M6).

This use is described in plans adopted by the City of Clayton.

g. Mixed Use-Wood Ranch (M7).

The mixed use area on the former Wood Ranch property in the Sycamore Valley, within the Town of Danville, is described in plans adopted by that city.

h. Mixed Use-Oakley Community Center (M8).

The Oakley Community Center Mixed Use District comprises three properties totalling 1,539 acres located north of Cypress Road, east of Marsh Creek, and west of Jersey Island Road commonly referred to as the Cypress Corridor. The purpose of this mixed use designation is to provide for the integrated development of these three properties through a comprehensive planning process which will be completed prior to actual development of any of the three properties. This planning process will have as its focal point a community center complex, including a large community park, for either the incorporated or unincorporated community of Oakley. Given the unique physical characteristics of the site and its intended function as a community center for Oakley, the planning flexibility provided by this mixed use designation is necessary. All land use categories may include open space areas for active and passive recreation, wetland preservation, water canals, and similar open space uses. Water-related uses will largely occur north of the Contra Costa Canal; Commercial and Office uses will largely occur south of the Contra Costa Canal; and Single Family and Multi-Family uses will occur on both sides of the Contra Costa Canal. The land uses within this mixed use plan are anticipated to include:

RANGE OF GROSS ACREAGES OF PROPOSED LAND USE FOR CYPRESS CORRIDOR

Land Use Category	Low	High
Single Family Residential (SL, SM, SH)	1,035	1,330
Multi-Family Residential (ML, MM, MH)	100	150
Commercial (CO)	15	20
Office (OF)	30	40
Commercial Recreation (CR)	20	30
Parks and Recreation (PR)	100	150
Public and Semi-Public (PS)	25	35

Upon the adoption of this General Plan, in order to retain consistency between this General Plan and the Bethel Island Area Specific Plan, the Specific Plan shall be amended to exclude the Burroughs property which is covered by this mixed-use designation.

i. Mixed Use - Laurel Road (M-9)

This site is located on the south side of Laurel Road at the ATSF railroad tracks. The site will serve as a transition from the lower density single-family residential use to traditional commercial uses.

PUBLIC, SEMI-PUBLIC, LANDFILL AND OPEN SPACE USES

A total of eight land use designations have been defined for these uses. These include open space, agricultural, and recreational uses, as well as public/semi-public uses such as schools; public offices; highways and major flood control rights-of-way; and railroads. These use designations generally comprise non-urban uses under the 65/35 Land Preservation Standard.

a. Public and Semi-Public.

As the title implies, the "Public and Semi-Public" designation includes properties owned by public governmental agencies such as libraries, fire stations, schools, etc. This designation is also applied to public transportation corridors (freeways, highways, and BART), as well as privately owned transportation and utility corridors such as railroads, PG&E lines, and pipelines. The largest properties in this category are those of the U.S. Naval Weapons Station in Concord and Port Chicago.

A wide variety of public and private uses are allowed by this General Plan category. However, the construction of private residences or private commercial uses, and the subdivision of land, are not considered compatible with this designation.

b. Agricultural Lands.

This land use designation includes most of the privately owned rural lands in the County, excluding private lands that are composed of prime soils or lands that are located in or near the Delta. Most of these lands are in hilly portions of the County and are used for grazing livestock, or dry grain farming. The category also includes non-prime agricultural lands in flat East County areas, such as outside Oakley, which are planted in orchards. Some of the Agricultural Lands east of Oakley and Byron are included in the 100-year flood plain, as mapped by the Federal Emergency Management Agency (FEMA).

The purpose of the Agricultural Lands designation is to preserve and protect lands capable of and generally used for the production of food, fiber, and plant materials. The title is intended to be descriptive of the predominant land-extensive agricultural uses that take place in these areas, but the land use title or description shall not be used to exclude or limit other types of agricultural, open space or non-urban uses such as landfills, except as noted below in the descriptions of "Agricultural Core," "Delta Recreation and Resources," "Watershed," "Parks and Recreation," and "Open Space." The maximum allowable density in this category is one dwelling unit per 5 acres.

The uses that are allowed in the Agricultural Lands designation include all land-dependent and non-land dependent agricultural production and related activities. In addition, the following uses may be allowed by issuance of a land use permit, which shall include conditions of approval that mitigate the impacts of the use upon nearby agricultural operations through the establishment of buffer areas and other techniques:

- o facilities for processing agricultural products produced in the County such as dairies, rendering plants, and feed mills;
- o commercial agricultural support services which are ancillary to the agricultural use of a parcel, such as veterinarians, feed stores, and equipment repair and welding; and
- o small-scale visitor serving uses including small tasting rooms, stands for the sale of products grown or processed on the property, guest or "dude" ranches, horse training and boarding ranches, improved campgrounds, and "bed and breakfast" inns of five or fewer bedrooms which are on lots of 20 acres or more, extensive recreational facilities and private retreats.

The following standards shall apply to all uses allowed in the Agricultural Lands designation:

- (1) Any subdivision of lands shall include conditions of approval which conform with the requirements of the "Ranchette Policy," which is outlined in the "Agricultural Resources" section of the Conservation Element (Chapter 8); and
- (2) Residential and non-residential uses proposed in areas of special flood hazards, as shown on FEMA maps, shall conform to the requirements of the County Floodplain

Management Ordinance (County Ord. #87-45) and the further requirements outlined in the "Delta Recreation" section (d) (5) below.

c. **Agricultural Core.**

This designation applies to agricultural lands that are composed primarily of prime (Class I or II) soils in the Soil Conservation Service Land Use Capability Classifications, which are considered the very best soils for farming a wide variety of crops. Lands designated as Agricultural Core are located in East County outside the ULL to the east, south, and west of the City of Brentwood. Much of the land in this designation is under active cultivation of intensive row crops, such as tomatoes and other vegetables. A portion of the Agricultural Core lands are included within the 100-year flood zone, as identified by the U.S. Federal Emergency Management Agency (FEMA).

The purpose of the Agricultural Core designation is to preserve and protect the farmlands of the County which are the most capable of, and generally used for, the production of food, fiber, and plant materials. Agricultural operations in the Agricultural Core shall, in accordance with Measure C - 1990, be protected by requiring a higher minimum parcel size than the Agricultural Lands designation, to attempt to maintain economically viable, commercial agricultural units. The creation of small uneconomical units will be discouraged by land use controls and by specifically discouraging minor subdivisions and "ranchette" housing development.

The uses that are allowed in the Agricultural Core designation are the same as those allowed, without the issuance of a land use permit, in the Agricultural Lands designation, specified above. However, none of the uses described as conditional uses in the Agricultural lands designation are considered appropriate in the Agricultural Core designation. This Plan discourages the placement of public roadways or new utility corridors which would adversely affect the viability of the Agricultural Core if economically feasible alternatives exist.

Residential uses are allowed in the Agricultural Core according to the following standards (in accordance with Measure C - 1990):

- (1) The maximum permitted residential density shall be one unit per 40 acres;
- (2) Subdivision of land which would create a cluster of "ranchette" housing is inconsistent with this plan;
- (3) Residential and non-residential uses proposed in areas of special flood hazards, as shown on FEMA maps, shall conform to the requirements of the County Floodplain Management Ordinance (County Ord. #87-45) and the further requirements outlined in the "Delta Recreation and Resources" section (d) (5) below.

d. Delta Recreation and Resources.

This land use designation encompasses the islands and adjacent lowlands of the San Joaquin-Sacramento Delta, excluding Bethel Island and the community of Discovery Bay which have separate land use designations on the Land Use Map. Most of the lands designated Delta Recreation and Resources are within the 100-year flood plain mapped by FEMA, which means that the area is subjected to periodic flooding. Many of the Delta islands, and the tracts adjacent to the Delta, are currently in agricultural production of dry grains and other special crops suited to the soils and climate, such as asparagus. There are limited public water or sewer services currently available to the area.

The serious flooding danger in the area is due to the possibility that bay and river waters will overtop the existing levees during periods of storms or other high water, as well as the possibility that portions of the earthen levees may fail entirely during storms or earthquakes, resulting in the inundation of whole islands or tracts. The flooding danger is exacerbated by the effects of subsidence (sinking of Delta islands) and the rising of global sea waters caused by the "greenhouse effect." In recent years, during 1973, 1980, 1983, and 1986 one or more Delta island levees failed or were overtopped, and some of these were summer breaks that did not occur at a time of high storm runoff. Some islands in the Delta have been flooded two or three times since 1980.

Additionally, lands within this designation include lands with valuable wildlife habitat, some of which support species of ecological value to the County and the State. These areas are an important component of the Pacific Flyway, a major waterfowl migration route in North America.

Public preservation of portions of these resources is encouraged by this plan. Private utilization of the resources for hunting and fishing is appropriate, if the activities do not harm the long-term resource value of the Delta.

Due to their proximity to the Delta waterways, these lands have potential recreational value. The purpose of the Delta Recreation and Resources designation is to balance the recreational opportunities of the area against the need to allow only low intensity uses which will not subject large numbers of residents or visitors to flood dangers. Agriculture and wildlife habitat is to be considered the most appropriate uses in the area, with limited recreation uses allowed which do not conflict with the predominant agricultural and habitat uses.

The primary uses that are allowed in the Delta Recreation and Resources designation are those agricultural production and processing activities allowed in the Agricultural Lands designation, listed in section (b) above.

Additional uses that may be allowed through the issuance of a land use permit include: marinas, shooting ranges, duck and other hunting clubs, campgrounds, and other outdoor recreation complexes.

Conditional uses allowed in the Delta Recreation and Resources designation shall be limited to those low- to medium-intensity establishments that do not rely on urban levels of service or infrastructure, i.e., a public water or sewer system, and which will not draw large

concentrations of people to flood-prone areas. Uses allowed within areas designated for Delta Recreation and Resources shall be subject to the following standards:

- (1) The maximum permitted residential density shall be one unit per twenty acres;
- (2) All recreational uses shall be accessible by a publicly maintained road;
- (3) Any subdivision of lands shall include conditions of approval which conform with the requirements of the "Ranchette Policy," which is outlined in the "Agricultural Resources" section of the Conservation Element;
- (4) Development shall not be permitted on lands designated by FEMA as flood-prone until a risk assessment and other technical studies have been prepared and have shown that the risk is acceptable;
- (5) All approved entitlements (land use permits, tentative, final, and parcel maps, development plan permits, and variances) and ministerial permits (building and grading permits) shall conform to the requirements of the Floodplain Management Ordinance (County Ord. #87-45), which are incorporated into this General Plan by reference; and
- (6) All entitlements shall include conditions of approval which require that a "flood-prone area" notification statement be included in the deeds for all affected properties. The same notification statement shall be recorded on the face of all subdivision maps, along with the specific elevations that will be required of all new building pads and habitable floors.

e. Watershed.

Areas designated "Watershed" in this General Plan include much of land owned by the two major water suppliers in the County, the East Bay Municipal Utility District (EBMUD) and the Contra Costa Water District (CCWD). EBMUD property designated as "Watershed" surrounds the Lafayette, Briones, San Pablo, and Upper San Leandro Reservoirs (which are in a separate "Water" designation). Other EBMUD lands designated in this designation are located north and south of the Caldecott Tunnel and along Pinole Valley Road. CCWD lands placed in the "Watershed" designation category include properties acquired for the proposed Los Vaqueros reservoir in the southeastern portion of the County.

In order to safeguard the public water supplies stored in the reservoirs, only a very limited number of uses are allowed in "Watershed" areas. These uses include extensive agriculture, primarily grazing of livestock; intensive agriculture that does not rely upon pesticides or other chemical fertilizers, such as Christmas tree farming; passive, low intensity recreational uses such as hiking and biking, as well as small-scale commercial uses that support picnicking, boating, and fishing activities on the adjacent reservoirs.

f. Open Space.

This General Plan designation includes publicly owned, open space lands which are not designated as "Public and Semi-Public," "Watershed," or "Parks and Recreation." Lands designated "Open Space" include, without limitation, wetlands and tidelands and other areas of significant ecological resources, or geologic hazards.

The "Open Space" designation also includes privately owned properties for which future development rights have been deeded to a public or private agency. For example, significant open space areas within planned unit developments identified as being owned and maintained by a homeowners association fall under this designation. Also included are the steep, unbuildable portions of approved subdivisions which may be deeded to agencies such as the East Bay Regional Park District, but which have not been developed as park facilities. Other privately owned lands have been designated as "Open Space" consistent with adopted city General Plans.

The most appropriate uses in "Open Space" areas involve resource management, such as maintaining critical marsh and other endangered habitats or establishing "safety zones" around identified geologic hazards. Other appropriate uses are low intensity, private recreation for nearby residents. The construction of permanent structures, excluding a single-family residence on an existing legally established lot, not oriented towards recreation or resource conservation, is inconsistent with this open space designation. One single family residence on an existing legal lot is consistent with this designation.

g. Parks and Recreation.

The "Parks and Recreation" designation includes all publicly-owned city, district, County and regional parks facilities, as well as all golf courses, whether publicly or privately owned.

Appropriate uses in the designation are passive and active recreation- oriented activities, and ancillary commercial uses such as snack bars, and restaurants. The construction of new privately owned residences or commercial uses, and the subdivision of land, is inconsistent with this General Plan designation.

h. Water.

This designation is applied to approximately 68 square miles of water in the San Francisco-San Pablo Bay and Sacramento-San Joaquin River estuary system which is within the County. The designation is also applied to all large inland bodies of water such as reservoirs.

Uses allowed in the "Water" designation area include transport facilities associated with adjacent heavy industrial plants, such as ports and wharves; and water-oriented recreation uses such as boating and fishing.

The construction of new residences or commercial uses and the subdivision of land is inconsistent with this General Plan designation.

i. Landfill

"LF" designates sites for public or private landfills. Landfills and related uses are allowed in LF areas. A use permit shall be required to develop a landfill. Uses in any buffer areas within an LF designation shall be limited to landfill-related uses, open space uses, and agricultural uses.

Prior to landfill development, open space or agricultural uses allowed by the AL designation are allowed in SF areas. After a landfill is closed, these AL uses, plus monitoring and other necessary or desirable post-closure activities, are allowed.

To satisfy the requirements for building intensity and population density standards, the following provisions apply to areas designated for landfills: (a) one landfill shall be allowed within each LF area; (b) no new residential units shall be allowed; and (c) accessory buildings shall be limited to a maximum of three stories in height (excluding towers or antennae relating to landfill operation). These provisions are maximums, and the actual height of any landfill facilities shall be set forth in the use permit and accompanying plans. The specific dimensions of each landfill will depend upon the features of the designated site, and must be determined in considering a use permit for the landfill.

The LF designation implements the voters' decisions on landfills. The voters approved the Keller Canyon General Plan Amendment in the June 1990 election, and rejected an initiative to stop the Marsh Canyon site in November 1990. The LF designation also implements Section F(2) of the Board of Supervisors' 65/35 Land Preservation Plan, approved by the County voters as Measure C in November 1990. Section F(2) provides that facilities for public purposes are a non-urban use allowed outside the Urban Limit Line.

3.8 LAND USE GOALS, POLICIES AND IMPLEMENTATION MEASURES

GOALS

The following broad goals form the basis from which the County's land use policies and implementation measures, presented later in this chapter, are derived. In the following goals, policies and implementation measures, note that when the word "urban" is employed (as in the phrase "urban development" and "urban uses"), the broad definition of the word is intended. This broad definition is the definition of Measure C - 1990 used to distinguish between the maximum of 35 percent of the County land that can be used for urban development and the 65 percent minimum of land in the County that must be preserved for agriculture, open space, wetlands, parks and other non-urban purposes. This broad definition of "urban" is in contrast to the more restrictive use of the word "urban" in the Growth Management Program, which is included in

Chapter 4. These more restrictive definitions were used in Measure C - 1988 solely for information and guidance in applying traffic service standards for growth management.

- 3-A. To coordinate land use with circulation, development of other infrastructure facilities, and protection of agriculture and open space, and to allow growth and the maintenance of the County's quality of life. In such an environment all residential, commercial, industrial, recreational and agricultural activities may take place in safety, harmony, and to mutual advantage.
- 3-B. To provide opportunities for increasing the participation of Contra Costa County in the economic and cultural growth of the region, and to contribute to, as well as benefit from, the continued growth in importance of the Bay Region and the State of California.
- 3-C. To encourage aesthetically and functionally compatible development which reinforces the physical character and desired images of the County.
- 3-D. To provide for a range and distribution of land uses that serve all social and economic segments of the County and its subregions.
- 3-E. To recognize and support existing land use densities in most communities, while encouraging higher densities in appropriate areas, such as near major transportation hubs and job centers.
- 3-F. To permit urban development only in locations of the County within identified outer boundaries of urban development where public service delivery systems that meet applicable performance standards are provided or committed.
- 3-G. To discourage development on vacant rural lands outside of planned urban areas which is not related to agriculture, mineral extraction, wind energy or other appropriate rural uses; discourage subdivision down to minimum parcel size of rural lands that are within, or accessible only through, geologically unstable areas; and to protect open hillsides and significant ridgelines.
- 3-H. To adopt and implement an innovative Countywide Growth Management Program which effectively links land use policy with transportation and other infrastructure improvements.
- 3-I. To coordinate effectively the land use policies of the County General Plan with those plans adopted by the cities and special service districts.
- 3-J. To encourage a development pattern that promotes the individuality and unique character of each community in the County.
- 3-K. To develop a balance between job availability and housing availability with consideration given to wage levels, commute distance and housing affordability. The individual characteristics of the several subregions of the County and their interaction with other regions shall be considered when establishing criteria for delivering that balance.

- 3-L. To safeguard the County's obligations to provide its fair share of safe, decent and affordable housing.
- 3-M. Protect and promote the economic viability of agricultural land.
- 3-N. To coordinate effectively the policies of the Land Use Element with appropriate Local Agency Formation Commission (LAFCO) determinations.

POLICIES

Countywide

The following are broad, Countywide policies which apply to all properties. More detailed development policies for specific areas in the County are found in the "Local Plan Policies" section at the end of this chapter.

Jobs/Housing Balance

- 3-1. Housing infill shall be supported and stimulated where the jobs/ housing ratio shows an overabundance of jobs to housing.
- 3-2. Job infill shall be supported and stimulated where the jobs/housing ratio shows an overabundance of housing to jobs.
- 3-3. As feasible, areas experiencing rapid urban growth shall be developed so as to provide a balance of new residential and employment opportunities.
- 3-4. Financing mechanisms shall be developed which spread the costs of facilitating jobs/housing balance between existing and new development.

Growth Management, 65/35 Land Plan, and Urban Limit Line

- 3-5. New development within unincorporated areas of the County may be approved, providing growth management standards and criteria are met or can be assured of being met prior to the issuance of building permits in accordance with the growth management.
- 3-6. Development of all urban uses shall be coordinated with provision of essential Community services or facilities including, but not limited to, roads, law enforcement and fire protection services, schools, parks, sanitary facilities, water and flood control.
- 3-7. The location, timing and extent of growth shall be guided through capital improvements programming and financing (i.e. a capital improvement program, assessment districts, impact fees, and developer contributions) to prevent infrastructure, facility and service deficiencies.

- 3-8. Infilling of already developed areas shall be encouraged. Proposals that would prematurely extend development into areas lacking requisite services, facilities and infrastructure shall be opposed. In accommodating new development, preference shall generally be given to vacant or under-used sites within urbanized areas, which have necessary utilities installed with available remaining capacity, before undeveloped suburban lands are utilized.
- 3-9. Areas not suitable for urban development because of the lack of availability of public facilities shall remain in their present use until the needed infrastructure is or can be assured of being provided.
- 3-10. The extension of urban services into agricultural areas outside the Urban Limit Line, especially growth-inducing infrastructure, shall be generally discouraged
- 3-11. Urban uses shall be expanded only within an Urban Limit Line where conflicts with the agricultural economy will be minimal.
- 3-12. Preservation and buffering of agricultural land should be encouraged as it is critical to maintaining a healthy and competitive agricultural economy and assuring a balance of land uses. Preservation and conservation of open space, wetlands, parks, hillsides and ridgelines should be encouraged as it is crucial to preserve the continued availability of unique habitats for wildlife and plants, to protect unique scenery and provide a wide range of recreational opportunities for County residents.
- 3-13. Promote cooperation between the County and cities to preserve agricultural and open space land.
- 3-14. Protect prime productive agricultural land from inappropriate subdivisions.

Community Identity and Urban Design

- 3-15. The design of new buildings and the rehabilitation of existing buildings shall reflect and improve the existing character of the commercial districts in the County.
- 3-16. Community appearance shall be upgraded by encouraging redevelopment, where appropriate, to replace inappropriate uses.
- 3-17. Opportunities shall be provided for retaining, enhancing and diversifying the cultural activities available to the County.
- 3-18. Flexibility in the design of projects shall be encouraged in order to enhance scenic qualities and provide for a varied development pattern.
- 3-19. Buffers shall be provided between new industrial developments and residential areas by establishing setbacks, and park-like landscaping or other appropriate mechanisms.

Residential Uses

- 3-20. The predominantly single family character of substantially developed portions of the County shall be retained. Multiple-family housing shall be dispersed throughout the County and not concentrated in single locations. Multiple-family housing shall generally be located in proximity to facilities such as arterial roads, transit corridors, and shopping areas.
- 3-21. Housing opportunities for all income levels shall be created. Fair affordable housing opportunities should exist for all economic segments of the County.
- 3-22. A diversity of living options shall be permitted while ensuring community compatibility and quality residential development.
- 3-23. Housing opportunities shall be improved through encouragement of distinct styles, desirable amenities, attractive design and enhancement of neighborhood identity.
- 3-24. Innovation in site planning and design of housing developments shall be encouraged in order to upgrade quality and efficiency of residential living arrangements and to protect the surrounding environment.
- 3-25. Efforts to maintain and rehabilitate existing dwelling units in established neighborhood areas shall be supported.
- 3-26. Existing residential neighborhoods shall be protected from incompatible land uses and traffic levels exceeding adopted service standards.
- 3-27. New residential development shall be accommodated only in areas where it will avoid creating severe unmitigated adverse impacts upon the environment and upon the existing community.
- 3-28. New housing projects shall be located on stable and secure lands or shall be designed to mitigate adverse or potentially adverse conditions. Residential densities of conventional construction shall generally decrease as the natural slope increases.

Business and Employment Uses

- 3-29. A variety of appropriately-sized, well-located employment areas shall be planned in order that industrial and commercial activities can contribute to the continued economic welfare of the people of the County and to the stable economic and tax bases of the County and the various cities.
- 3-30. Employment centers in the County area shall be designed to be compatible with the nature of the surrounding area.
- 3-31. Commercial areas of appropriate size and location shall be provided to accommodate the needs of the present and anticipated population in each subregion or community of the County.

- 3-32. Well-defined commercial areas oriented to community shopping shall be provided in the County.
- 3-33. Local shopping facilities shall be distributed and spaced at intervals to accommodate the requirements of residential neighborhoods, minimize travel times, and reduce energy costs.
- 3-34. The limits of business areas shall be established, where practical, by the use of boundaries set by creeks, major roads, significant changes in topography, and other physical features in order to avoid conflicts and provide a buffer between commercial and nearby residential uses.
- 3-35. New areas of strip commercial development shall be discouraged except as provided in this plan. ("Strip commercial" shall be generally defined as commercial development of shallow depth limited to the parcels fronting on a street and extending in a linear manner for a considerable distance.)
- 3-36. New local convenience shopping shall generally be located at the intersections of major streets and highways. Such uses shall be discouraged on more than two corners of an intersection.
- 3-37. Business and professional office development shall be encouraged in areas designated for commercial land use within shopping areas and where a transition or buffer use is appropriate between commercial and residential areas.
- 3-38. Existing employment areas shall be improved to create better pedestrian circulation, bicycle paths and adequate parking.
- 3-39. Adaptive reuse of structures (i.e., remodeling or upgrading original commercial and industrial buildings) shall be encouraged.
- 3-40. The continuing orderly development of research facilities, regional offices, and light industrial uses shall be encouraged in designated areas in order to improve the economic base and provide local employment.
- 3-41. Industrial development shall be concentrated in select locations adjacent to existing major transportation corridors and facilities.
- 3-42. Industrial employment centers shall be designed to be unobtrusive and harmonious with adjacent areas and development.
- 3-43. Industries which employ the skills of County residents shall be encouraged to locate within the County.
- 3-44. The development of agriculturally-related industries which will enhance the continued productivity of agriculture shall be encouraged.
- 3-45. Water-oriented recreation uses shall be permitted in East County provided that such development is compatible with the Delta's unique ecology.

IMPLEMENTATION MEASURES

The following specific measures should be implemented in order to carry out the land use goals and policies outlined in this chapter. The major implementation measure for this plan is a Growth Management Program, a 65/35 Preservation Standard and a ULL. The programs are described earlier in this Land Use Element (see Chapter 3.6) and in Section 4, Growth Management Element. (To the extent implementation measures referenced earlier in Chapter 3.6 are identified, they are incorporated into this list of land use implementation measures.)

Overall Measures

- 3-a. Revise the County Zoning Ordinance and other ordinances to conform with the land use designations included in this General Plan, e.g. delete the F-R, U, A-1, and F-1 zoning districts; create a new Commercial Recreation district.
- 3-b. During project review, require that proposed uses on the edges of land use designations be evaluated to ensure compatibility with adjacent planned uses.
- 3-c. Where appropriate, require the dedication of deeded development rights to the County (or cooperate in dedication to other public agencies) for lands to be protected as open space.
- 3-d. Review proposed land development projects for consistency with land use designations and relevant policies and standards of each Element of the General Plan.
- 3-e. Review proposed amendments to the General Plan to ensure continued internal consistency among the Elements.
- 3-f. The County shall conduct a study of minimum parcel sizes in agricultural districts needed to implement General Plan policies and adopt such parcel sizes.

Jobs/Housing Balance

- 3-g. Adopt land use regulations which allow mixed use developments as a mechanism for achieving a jobs/housing balance.
- 3-h. Require staff reports on development applications for residential developments of 100 or more units to address the impact of that development upon the subregional jobs/housing balance.
- 3-i. Require staff reports on development applications for commercial, light industrial and office developments of more than 10,000 square feet or generating 25 or more jobs to address the impact of that development upon the subregional jobs/housing balance.

- 3-j. Provide incentives to encourage the construction of affordable housing in areas where few such opportunities exist and significant employment centers exist or are proposed.

Growth Management, 65/35 Plan and Urban Limit Line

- 3-k. Institute the Growth Management Program described in Section 4, taking into account fiscal constraints in accordance with Measure C - 1988. Enforce traffic level of service (LOS) standards and performance standards for fire, police, parks, sanitary facilities, water, and flood control.
- 3-l. Prepare and adopt a five year capital improvement and financing program for the purpose of meeting or maintaining traffic service and facilities performance standards for fire, police, parks, sanitary facilities, water and flood control.
- 3-m. Review and amend as necessary all adopted fee schedules to ensure that they meet the cost of planned improvements. In conjunction with the County's CEQA mitigation monitoring program, assess and monitor mitigation measures and consider adopting other development mitigation programs as needed to ensure that development is paying its share of the costs associated with new growth.
- 3-n. Work with the County Transportation Commission to determine what specific situations merit a "finding of special circumstances" under Measure C - 1988, requiring additional mitigation and/or exemption from traffic standards.
- 3-o. Seek funds to maintain and expand a Countywide comprehensive transportation model for the purpose of monitoring Countywide traffic service levels and other infrastructure.
- 3-p. Maintain the 65/35 Land Preservation Standard and devise a means of tracking urban and non-urban development and uses in the cities and unincorporated areas.
- 3-q. Maintain and enforce the ULL in accordance with the terms of this Land Use Element and Measure C - 1990. Incorporate the ULL into the County's Open Space Conservation Plan.
- 3-r. Perform an initial review of the ULL and a five (5) year periodic review of the ULL to determine whether changes are warranted, as described in this Land Use Element.
- 3-s. Establish standards and policies designed to protect the economic viability of agricultural land which may include, but not necessarily be limited to, preservation agreements, conservation easements, clustering, and establishment of agricultural mitigation fees.
- 3-t. Enforce the restrictions on open hillsides and significant ridgelines in the Open Space Element and protect hillsides with a grade of 26 percent or greater through implementing zoning and other appropriate measures and actions.
- 3-u. To the extent feasible, enter into preservation agreements with cities designed to preserve land for agriculture, open space, wetlands or parks.

- 3-v. To the extent legally permitted, advise LAFCO to (a) respect and support the County's 65/35 Preservation Standard, Urban Limit Line and growth management standards when considering requests for incorporation or annexation to cities or service districts, (b) apply the stricter of the growth management standards of either the County, the incorporating city or the annexing city or service district, when considering requests for incorporation or annexations of land to cities or service districts, and (c) require unincorporated land located within the Urban Limit Line that is included in the incorporation of a new city or annexed to a city to provide a fair share of affordable housing when and if such land is developed.

Community Identity and Urban Design

- 3-w. Within the Urban Limit Line, maintain visual separations between communities where the opportunity still exist.
- 3-x. Promote, devise and maintain appropriate development/redevelopment themes, including design review criteria to provide community identities for the commercial districts of unincorporated communities in the County.
- 3-y. Amend the County Code to included design review of development projects as a function of the Planning Commission.
- 3-z. Initiate and enforce, if necessary, specific development standards for both proposed and existing businesses to achieve appropriate landscaping, design and sign structures.

Residential Uses

- 3-aa. Amend the R-40 district to require a minimum lot size of 43,560 square feet; create new multiple family district(s).
- 3-ab. Periodically review and update the Housing Element of this General Plan, to ensure that it accommodates a variety of housing types and prices throughout the County.

Business and Employment Uses

- 3-ac. Stimulate increased quantities and different types of local economic development and employment growth through the adoption and implementation of a comprehensive economic development strategy for communities within the County.
- 3-ad. Identify and target suitable growth industries for future contacts to encourage their establishment within the County.
- 3-ae. Expand and pursue joint ventures between the County, cities, and private sector which attract appropriate economic development into economically depressed areas of the County.
- 3-af. Delineate precise boundaries for central commercial districts to protect adjacent residential areas and prevent thoroughfare (strip) commercial development patterns.

- 3-ag. Require new commercial development to provide separate parking areas or contribute to community parking facilities.
- 3-ah. Develop and implement a specific strategy for providing additional off-street public parking in the central commercial districts.
- 3-ai. Stimulate the sound economic development of the County by participating in efforts to coordinate industrial development policies with relevant private and public agencies.
- 3-aj. Define auto dismantling activity in the County Zoning Ordinance as an industrial use, and confine its future development to designated industrial areas.
- 3-ak. Review and revise all commercial districts defined in the Zoning Ordinance to ensure that the regulations do not allow uses in the districts that are inconsistent with this General Plan.

POLICIES FOR THE EAST COUNTY AREA

Land Use

The following policies shall guide development in the East County Area:

- 3-46. This Plan directs most of the residential and commercial growth that is anticipated to occur in the unincorporated East County area during the planning period into the Oakley community, with smaller amounts of recreation-oriented development allowed on Bethel Island.
- 3-47. Docks and marinas permitted by the implementing zoning district shall be considered for approval in certain designated Delta Recreation areas based upon the following criteria:
 - (a) where projects can be clustered and located adjacent to similar uses;
 - (b) along waterways having an adequate channel width as defined by the State Harbors and Navigation Code;
 - (c) in areas having adequate public vehicular access;
 - (d) where off-site improvements, such as required access roads, can be assigned to development;
 - (e) where adequate on-site sewage disposal can be provided;
 - (f) where located in an area served by a public fire protection district; and
 - (g) where such uses will not conflict with adjacent agricultural uses.

- 3-48. The density and development of single family homes in the East County area, in lands designated for residential or other urban uses, shall be related to service availability criteria, as defined below:

<u>Service Availability</u>	<u>Minimum Allowable Parcel Size</u>
No public water or sewer connection available.	5 acres
One public service (sewer or water) connection available.	1 acre
Both public water and sewer connections available.	Minimum parcel size consistent with the specified General Plan densities, as well as drainage, health, and other applicable standards.

Transportation

- 3-49. Restrict access on to State Highway 4 and within those areas designated for residential development.
- 3-50. Improve existing interchanges and establish new interchanges over State Route 4 by developing plans in coordination with Caltrans and the Cities of Pittsburg, Antioch and Brentwood.
- 3-51. Encourage the State to incorporate the Delta Expressway into the State Highway System as a bypass to State Route 4 and upgrade the facility to a freeway.
- 3-52. The County shall encourage the expansion of regularly scheduled transit service and express bus service to urbanizing areas east of Antioch.

POLICIES FOR THE OAKLEY-NORTH BRENTWOOD AREA

Land Use

The following policies shall guide development in the Oakley-North Brentwood Area:

- 3-53. All special districts within the Plan Area shall work towards adoption of a common boundary. The adoption of specific boundaries for the Oakley community will provide assurance to the residents that the area will maintain its unique character. Boundaries can be delineated via the establishment of a community facilities district, county service area, e.g., park and recreation district, or community services district.

- 3-54. Subdivision of single-family residential land to less than the specified single-family density range shown on the County Land Use map shall not be approved unless all of the following criteria are met:
- (a) owner-occupants of an existing residence wish to retain their existing home and sell surplus acreage;
 - (b) the division clearly allows all property, including the existing home site, to be developed within the planned density range and to allow for appropriate street design, lot configuration, access, and utility line extension;
 - (c) all dedications for arterial and collector streets, and all water, electricity, gas, and sewer extensions, are made for all property within the subject land division; and
 - (d) no more than two parcels are created, one with the existing home and one comprising the balance of the property.
- 3-55. Design guidelines for the Oakley area shall be made. The guidelines should include themes that will assist neighborhood commercial development to reflect the residential character of the surrounding area, existing commercial development to upgrade its appearance, and that will establish architectural and landscape continuity. The design policies for the area shall be adopted by the ECRPC and confirmed by the Board of Supervisors.
- 3-56. Housing which accommodates the needs of fixed income persons, elderly persons, or both in and around the Old Town of Oakley shall be encouraged.
- 3-57. Higher residential densities around the Old Town of Oakley area shall be encouraged.
- 3-58. Existing Old Town development currently lacking on-site parking shall be accommodated through developing a specific strategy for providing off-street parking. Such a strategy would include programs to incorporate public parking into any reuse, or development of abandoned railroad rights-of-way adjacent to the Old Town area, and building new sidewalks and bicycle paths.
- 3-59. Economic development and employment growth possibilities shall be expanded by preparing a comprehensive economic development strategy. Such a strategy may include joint ventures with the private sector and the County for the establishment of a redevelopment area.
- 3-60. Standards for adequate physical separation between types of industrial uses and categories of non-industrial use shall be defined and codified.
- 3-61. Industries that do not have potential for ground-water or air contamination shall be encouraged, and zoning ordinances to require conditional use permits for all projects in light industrial zones shall be amended.
- 3-62. Setbacks and other special performance criteria for all industrial uses shall be required.

- 3-63. Minimum parcel sizes sufficient to accommodate buffering, landscaping, parking, and other specific site development standards and County ordinance requirements shall be established.
- 3-64. Landscaped berms or other buffers between parking lots and streets abutting State Route 4, Neroly Road, Oakley Road, Laurel Road, and Empire Avenue shall be encouraged.
- 3-65. Agriculture-related businesses to expand or relocate to Oakley shall be assisted.

Transportation

- 3-66. Parkways shall have a minimum right of way width of 110 feet. The following roads are designated as parkways: Oakley Road, east of Neroly Road; Laurel Road and its westerly extension; Neroly Road and its easterly extension to Delta Road; Delta Road; Lone Tree Way and its easterly extension; Live Oak Avenue from Oakley Road north to State Route 4; Empire Avenue; O'Hara Avenue.
- 3-67. The following roads are designated as transitways: State Route 4; Oakley Road; Cypress Road, west of State Route 4; Laurel Road, west of State Route 4; Neroly Road between State Route 4 and Laurel Road; Empire Avenue, between State Route 4 and Lone Tree Way; O'Hara Avenue between State Route 4 and Lone Tree Way.
- 3-68. Transit ridership through strategies, such as flexible setback and flexible parking requirements; new passenger shelters and passenger transfer facilities; pedestrian traffic signal and safety islands; as necessary at mid-block at intersection crosswalks, shall be encouraged.

POLICIES FOR THE BETHEL ISLAND AREA

The Bethel Island Area is comprised of on- and off-island areas (Hotchkiss Tract). The two areas differ with respect to soils, topographic and geographic conditions, and levee stability. As a result, different development and planning considerations must be given to each area. The on-island area consists of weak, organic soils that underlie the perimeter levee system, provides limited opportunities for evacuation in the event of a levee failure, is generally below sea level and subsiding, and provides limited opportunities for safe disbursement of flood water because it is a small island closed by levees. In the off-island area, on the other hand, the soil is sandy and less subject to subsidence, the elevation is higher, the levee system is in an improved condition and not as long, there are several evacuation alternatives, it is part of the mainland, and disbursements of flood waters are not artificially contained such that internal systems around new development will not adversely affect existing residences and structures in the flood plain. The concept for the

Bethel Island Area is to preserve and enhance the rural and recreational quality of the unique area, while providing opportunities for additional residential and commercial growth tied to water-oriented recreation. The following policies shall guide development in the Bethel Island Area:

- 3-69. The approval of new development shall be limited to 2,909 primarily recreation-oriented units in the off-island area (i.e. 3,000 additional units including the 91 units already approved, but not yet built).
- 3-70. New residential development in the on-island area shall be limited at this time to approved development and one dwelling unit per parcel.
- 3-71. Additional residential density in the on-island area may be considered through subsequent amendment at the discretion of the Board of Supervisors, provided at least the following are accomplished:
 - (a) a financing mechanism is fully and completely assured for improvements to the entire perimeter on-island levee system;
 - (b) the levee improvement plans are approved by Bethel Island Municipal Improvements District and the Army Corps of Engineers; and
 - (c) subsidence, as well as impacts on wetlands, are adequately mitigated.
- 3-72. Levee breaches on-island are prohibited unless the entire perimeter levee is improved to Army Corps of Engineers' standards.
- 3-73. Levee breaching off-island shall be permitted on a project-by-project basis and shall only be allowed subject to the Army Corps of Engineers approval.
- 3-74. Any internal levees must meet Army Corps of Engineers' standards. New construction must be set back from levee centerlines a minimum of 100 feet unless adequate substantiation for reduction is approved by RD-799 or BIMID. New construction not protected by certified levees must meet FEMA standards.
- 3-75. Stilt residential structures shall be allowed only on the basis of one unit per existing parcel. Such elevated structures shall not be allowed in any new subdivisions.
- 3-76. The off-island and on-island areas can develop 100,000 square feet of commercial development and 500 hotel rooms, consistent with FEMA standards.
- 3-77. Marine and waterfront facilities will require a use permit to address site-specific aquatic and other issues such as wetlands, water quality, public access, and the Delta's carrying capacity for such facilities in the Bethel Island Area.
- 3-78. To retain the characteristics of Bethel Island that make it an unique place in the Delta with its own separate identity, development shall be limited to a low overall density, and open

- 3-79. Residential development on Agricultural Lands, to the extent permitted beyond one unit per parcel in the off-island area, shall be clustered with development rights on the undeveloped land dedicated to the County.
- 3-80. A Protection Fee shall be imposed on each new residential unit in the Bethel Island Area to acquire development rights on agricultural lands, open space or wetland areas, or to provide financing for farmers to continue agricultural production. Priority for the acquisition of open space and wetlands shall be given to the on-island area. Additional funding sources shall be explored to supplement or replace the Protection Fee.
- 3-81. New development in the Bethel Island Area must comply with an improved financing plan for infrastructure improvements.

POLICIES FOR THE SOUTHEAST COUNTY AREA

Land Use

- 3-82. Numerous policies for this area were drafted by a citizens advisory committee appointed by the Board of Supervisors in 1985. Most of these policies are incorporated into this General Plan. They apply to Southeast County, a large rural area of approximately 74 square miles roughly bounded by Marsh Creek Road/Camino Diablo; the Morgan Territory Regional Preserve; and the Alameda and San Joaquin County borders.
- 3-83. Many of the specific policy statements of this plan support the concept of allowing for multiple uses, compatible with the predominantly agricultural watershed and public purposes of the area. The policies stress the need to preserve designated agricultural lands for agricultural use, and also to allow certain other uses in the area, such as wind energy farms, mineral extraction, and reservoirs.
- 3-84. The Southeast County area is almost exclusively planned for agricultural, watershed, or public purposes. New land uses within this plan area should be limited to those which are compatible to the primary agricultural and watershed purposes of the area (farming, ranching, poultry raising, animal breeding, aviaries, apiaries, horticulture, floriculture and similar agricultural uses and structures) and consistent with the multiple use philosophy enumerated by this plan.

Subject to specific project review and the policies listed within this plan, the following uses are generally consistent with the planned agricultural areas:

- (a) Public and private outdoor recreational facilities;
- (b) Dude ranches, riding academies, stables;
- (c) Wind energy conversion systems;
- (d) Single family residences on larger lots;

- (d) Single family residences on larger lots;
- (e) Mineral resources quarrying;
- (f) Oil and gas wells;
- (g) Pipelines and transmission lines; and
- (h) Veterinarian offices and kennels.
- (i) Public purpose uses, including those uses described in policies 3-87 and 3-88 below (airport, reservoir, landfill).

3-85. Southeastern Contra Costa County contains a range of natural and cultural resources which warrant special recognition in the General Plan. Mineral and meteorological resources exist which have the potential to be developed as additional uses within this essentially agricultural area. Multiple uses of the land which assist in its long term protection as an agricultural area are to be encouraged.

Policies regarding these specific natural and cultural resources are briefly summarized below. However, a more detailed discussion and additional policies should be referred to in other elements of this General Plan, separated into the following topics:

- o wind turbine development or wind energy "farms" (policies are found in the Conservation Element);
- o mineral resource areas (policies are found in the Conservation Element);
- o archaeological and wildlife resources (policies are also found in the Conservation Element);
- o Contra Costa Water District reservoir(s) planned in this area (policies are found in the Public Facilities/Services Element);
- o the East Contra Costa County Airport (policies are found in the Transportation and Circulation Element);
- o existing and planned recreation uses in the area (policies are found in the Public Facilities/Services Element); and
- o general circulation uses (policies are found in the Transportation/ Circulation Element).
- o Policies and implementation measures regarding the wildlife and archeological resources of the area are included in the Conservation Element.

The southeastern portion of the County is blessed with archaeological and wildlife resources which are unique and worthy of long term protection and preservation. While in certain portions of the planning area multiple uses of the land may conflict with the need for

environmental protection and enhancement, there are other areas where multiple use may reinforce preservation.

As a practical matter, it should be recognized that historically it has been the agriculturalists who have protected the unique environmental resources of the area. Their continued efforts in this regard are critical to the long range preservation of the area's resources.

- 3-86. The California Energy Resources Conservation and Development Commission has identified the Altamont Pass area, including the south- eastern portion of Contra Costa County, as an area with high wind energy potential.

The "Wind Energy Resources" section of the Open Space/Conservation Element contains a map that depicts the generalized boundaries of the wind energy resource area in Southeast County, based on materials developed for the State Energy Commission. The map identifies those areas that experience average wind speeds of at least 15 mph at an altitude of 70 feet above the ground. The same section includes specific policies that govern new wind turbine development in the County.

Clusters of wind turbines generate a certain amount of noise which could be a nuisance if new subdivisions or residences are allowed immediately adjacent to the existing turbines or on properties already approved for wind turbines. New residential uses should be discouraged within the wind energy areas. If wind farms become obsolete or are removed in the area, these policies should be reviewed through a subsequent General Plan Amendment.

Wind farm uses are to be considered appropriate within the resource area or along the periphery of the wind energy resource area, subject to a careful review of the environmental impacts of specific wind farm proposals.

- 3-87. Within Southeast Contra Costa County there is a geological deposit of domine sandstone located just southerly of Camino Diablo and easterly of Vasco Road. This area is further discussed and mapped in the "Mineral Resources" section of the Open Space/Conservation Element.

Limited residential or ranchette development of these mineral properties may be appropriate, but residential use shall be identified as secondary to mineral operations and will not be allowed to preclude the full utilization of identified mineral resources. Any nearby residential use will be permitted conditionally after recognizing the probable expansion of mineral operations and accepting the possible nuisance and inconvenience associated with mineral operations.

- 3-88. Public agencies are in the process of acquiring substantial portions of the planning area to serve the needs of the growing population of the East Bay. Two major public works projects have been approved that must be reflected in this plan amendment: the proposed East Contra Costa County Airport and the reservoir system proposed by Contra Costa Water District. Each is discussed further in the Circulation Element and the Public Facilities/Services Element, respectively.

At the time of this writing, construction of the airport has been approved by the Contra Costa Board of Supervisors and the initial funding has been allocated by the federal

government. The general location of the airport is shown on a map contained in the Circulation Element. As the airport project proceeds, land developments in the area must take into account safety, noise, aviation easements, and preservation of the area's agricultural and biological resources. Until such time as acquisition of land and construction of the airport is funded, the subdivision of nearby lands may continue to be considered under established County procedures and the policies of this plan.

The Contra Costa Water District has adopted a Phase I plan to pursue land acquisition in Southeast County that would enable the district to consider future construction of one or more reservoirs. The district Board of Directors has decided to acquire or ensure the protection of the Kellogg Creek watershed, which covers approximately 30 square miles of the planning area. The acquisition of this watershed area in the southeastern portion of the County is consistent with this plan.

- 3-89. Marsh Canyon, located within the Southeast County Area, is one of the two landfill sites designated in this plan. This landfill therefore may be developed according to the LF policies.

Transportation

- 3-90. Vasco Road is the only direct transportation link between Eastern Contra Costa County and the Tri-Valley area and may be inundated if a reservoir is constructed by the Contra Costa Water District and/or other agencies in the Kellogg Creek watershed. Any replacement road required as mitigation for the reservoir should be designed to be compatible with Caltrans' plans to extend State Route 84 from Livermore to Brentwood. Only a single roadway should be constructed as a replacement for Vasco Road. The roadway should have restricted access to minimize growth inducing impacts in this environmentally sensitive area, and be sensitive to the unique resources of the area.
- 3-91. This plan further recognizes that if a reservoir or reservoirs are built, that the Contra Costa County Water District or other agencies may be required to construct additional secondary construction and access roads on these lands in order to serve their facility.
- 3-92. The Southern Pacific railroad provides rail service through Brentwood and Byron. No change in status is anticipated in this plan amendment. However, the railroad right of way does provide the potential for a recreational trail route and for construction of future pipelines.

POLICIES FOR THE WEST PITTSBURG AREA

Land Use

- 3-93. The following policies shall guide development in the West Pittsburg area:
- (a) Upgrade community appearance by encouraging development of new uses to replace antiquated developments.

- (b) Provide for well designed projects and limited vehicular access to traffic arterials through the assembly of small parcels of land along Willow Pass Road.
- (c) Discourage new areas or expansion of strip commercial development in the community except as provided in this plan by the Willow Pass Mixed Use Corridor.
- (d) Achieve and maintain a healthy environment for people and wildlife, that minimizes health hazards and disruptions caused by the production, storage, transport and disposal of toxic materials.
- (e) A Redevelopment Plan for the West Pittsburg area was adopted by the Board of Supervisors in December, 1987. All development proposals should be reviewed by, and coordinated with, Redevelopment Agency staff to ensure compatibility with the Redevelopment Plan. Additionally, involvement with the redevelopment process will allow the County to coordinate concurrent development proposals and to possibly facilitate the construction of public improvements that will further the goals of the Redevelopment Plan.

3-94. The Boeger Ranch residential development is contingent on the construction of Driftwood Drive Extension as a collector road from Pacific to Evora Road. Permanent Open Space protection of the lands between the project and Evora Road (north half of the Shriner property) shall also be acquired and have development rights dedicated to the County. The Boeger Ranch (K&B) project shall be limited to 292 units.

3-95. Many areas designated for multiple family residential uses on the plan map were originally designed and are presently used for less intensive uses. These areas have property characteristics that would interfere with a successful conversion to higher intensity uses. Parcel sizes are small, restricting provision of on-site parking, landscaping and recreation facilities. Existing drainage facilities are antiquated and inadequate. Modifications to existing road design and access points would be desirable to handle greater traffic loads. Given these parameters, an incremental uncoordinated approach to development would probably fail to safeguard community interests.

Therefore, this plan supports the assembly of land designated for multiple family residential uses in sufficient acreages to make feasible the provision of a quality residential environment and adequate infrastructure to handle drainage and traffic concerns. Those projects that meet these objectives will be eligible for the maximum housing units within the range of the applicable density category.

3-96. The following development standards shall be applied to projects proposed in the Willow Pass Road Mixed Use Corridor:

- (a) access to parcels along Willow Pass Road should be minimized and should be from secondary roads whenever feasible;
- (b) development of shared access with uses on abutting properties should be considered at the time of project review;

- (c) the assembly and consolidated development of frontage parcels is encouraged by this designation;
 - (d) control on the placement, design, number, and size of signs should occur during project review and should be adequate to inform the community of the firm's identity without being visually disruptive; and
 - (e) the County shall consider the adoption of a streetscape plan for Willow Pass Road including, if appropriate, revision to existing precise alignment plans. The Plan review shall explore the merit of a street tree/landscape program, on-street parking, restricted traffic movements and transit facilities.
- 3-97. A two-story height restriction shall be applied to the properties included in the Snow and Tener General Plan Amendments, adopted in 1984 and 1986, respectively. The properties include parcels 095-1 30-023 and 097-260-004, 005, 006, 008, 013, and 014.
- 3-98. Consider how to upgrade the West Pittsburg water quality including increased regulation of the system, facility improvements or, potentially, public acquisition.

Transportation

- 3-99. The number of streets and driveways intersecting or entering Willow Pass Road shall be minimized.
- 3-100. Well-designed projects and limited vehicular access to traffic arterials shall be encouraged through the assembly of small parcels of land along Willow Pass Road.

POLICIES FOR THE MORGAN TERRITORY AREA

- 3-101. A separate General Plan/zoning conformity study shall be initiated by the County in the Morgan Territory Road area, south of Marsh Creek Road.
- 3-102. The restriction on further fragmentation of parcels is crucial to this plan. A rezoning study should be initiated on this planning area to apply new, more stringent zoning categories.
- 3-103. A scenic route specific plan will be implemented to ensure adequate rights-of-way for the scenic routes along Morgan Territory Road and Marsh Creek Road.
- 3-104. Development on the Pacini property will be considered in accordance with this land use designation of Single-Family Very Low Density and subject to conditions and terms imposed on approved maps and plans.

POLICIES FOR THE CLYDE AREA

- 3-105. Although the small town of Clyde is mostly built out, there are vacant properties adjacent to the Contra Costa Canal and near the community park which are being developed. Any future infill within the area must conform to the following policies:
- (a) the existing residential neighborhood is designated Single Family Residential-High Density (5.0 to 7.2 units per net acre), but in the Clyde area the density of any infill housing (excluding the area described in (b) below), is not to exceed 6 units per net acre;
 - (b) vacant land adjacent to the Contra Costa Canal is designated Single Family Residential-Medium Density (3.0 to 4.9 units per new acre). This reduced density reflects larger lots in this steep areas and will help to avoid excessive traffic along narrow Park Street;
 - (c) new construction should be compatible with the existing architecture to the extent possible. Ultra modern design in architecture should be discouraged; and
 - (d) the burden of providing adequate utilities and traffic circulation for new construction shall be borne solely by the developer.

POLICIES FOR THE BUCHANAN FIELD AREA

Land Use

- 3-106. The County adopted a new General Plan Amendment for Buchanan Field Airport in 1990 which specified land use, circulation, noise and recreation policies for the area around the County's main airport, Buchanan Field. This plan incorporates that amendment. The land use policies set forth in that amendment are printed below, and the additional policies may be found in the Transportation and Circulation Element (a description and policies regarding airport operations and roadways in the area), and the Noise Element (a description and policies regarding acceptable noise contours).
- 3-107. Two areas adjacent to the airport are designated for commercial uses: 13 acres located at the intersection of John Glenn Drive and Concord Boulevard, and 22 acres adjacent to the existing mobile home park, west of the airport runway.
- A range of commercial uses are allowed in this category. The actual uses allowed will be finalized through review of projects and leases for the use of the land.
- 3-108. For these two commercial areas to be developed, transportation improvements are required to be constructed or committed. Such improvements will be tied directly to the County leasing of these areas for development. The extent of improvements are to be determined by the Board of Supervisors as part of the bid package.

- 3-109. The area designated for commercial use at the entrance of John Glenn Drive is limited to development of 220,000 square feet of space; the area on Marsh Drive is limited to 180,000 square feet.
- 3-110. The major privately owned lands within the area are designated for light industrial use and are located along I-680, west of the airport, between the existing mobile home park and the golf course.
- 3-111. The California Public Utilities Code requires that the intent and purpose of the plans and policies adopted by the County Airport Land Use Commission be incorporated into the County General Plan. The commission has adopted numerous regulations which strictly define what types of land use, and the design of those uses, which will be allowed within the Commission's airport "planning area" and within designated "safety zones" under the airport's flight path. These policies and regulations are detailed in the "Airports and Heliports" section of the Transportation and Circulation Element.

Transportation

- 3-112. [See the policies listed under the "Airports and Heliports" section of the Transportation and Circulation Element (Section 5).]

POLICIES FOR THE CENTER AVENUE (PACHECO) AREA

- 3-113. The plan for the area in Pacheco located generally along Center Avenue west of the flood control channel is designated for Multiple Family Residential-Medium and High Density (12.0 to 20.9 units and 21.0 to 29.9 units per net acre, respectively). The Plan endorses efforts to consolidate smaller parcels into logical groupings for the private redevelopment of areas from single family homes to multiple family residential uses. Projects covering smaller existing lots should lead to higher densities and better designed projects.

Additionally, consolidation of lots should lead to fewer access points onto arterial and collector roads such as Center Avenue and Deodar Drive. North of Center Avenue, it is hoped that projects can be grouped into three or four applications, and south of Center Avenue applications should include all of existing blocks or the remnants of existing blocks.

- 3-114. The Plan recognizes the historical significance of the W.T. Hendrick house (218 Center Avenue) and encourages its continued preservation. Development that surround the house should be designed in a fashion that compliments the structure and works toward its continued preservation.

POLICIES FOR THE VINE HILL/PACHECO BOULEVARD AREA

Land Use

- 3-115. The scenic assets and unstable slopes of the Vine Hill Ridge are to be protected for open space/agricultural use.

- 3-116. The residential neighborhood east of I-680 shall be buffered from the industrial/land fill-related uses.
- 3-117. Approximately 40 acres of land south of the ATSF tracks, between Morello and Pacheco, is designated "Agricultural Lands," to encourage the continued operation of the Viano family vineyards and winery.

Transportation

- 3-118. The County should cooperate with landowners in the Waterbird Way corridor north and south of the ATSF railroad tracks to develop a financial plan for the extension of Waterbird Way south to Imhoff Drive. Access to industrial land south of the railroad tracks shall not be allowed though the adjacent residential neighborhood.

POLICIES FOR THE PLEASANT HILL BART STATION AREA

Land Use

- 3-119. The area immediately adjacent to the Pleasant Hill BART station is the subject of special development standards outlined in the Pleasant Hill BART Station Specific Plan, adopted in 1983 and as amended through 1988. Most of the residential and commercial development allowed under this specific plan has already been approved by the County, with the exception of development on a large parcel owned by the BART District, much of which has not yet been approved for construction. To assist in the assemblage of development sites and to finance required infrastructure to support the development, the County, in 1984, adopted a Redevelopment Plan for the area. The Redevelopment Plan was amended in 1988 to facilitate the development of affordable rental housing in order to achieve a jobs/housing balance.

Development of additional properties in the Oak Road, Cherry Lane, and Hookston areas which are near the BART station but outside the boundaries of the specific plan are governed by the policies included in the Oak Road, Cherry Lane North, and Hookston Square General Plan Amendments, adopted in 1985 and 1986. These policies are listed separately below.

- 3-120. The overall goals for the Pleasant Hill BART station area are to:
- (a) increase the concentration of high intensity employment uses and affordable housing in the area to better utilize the regional transit accessibility provided by BART;
 - (b) integrate housing into the area where environmental constraints (such as noise from I-680) or overall land use considerations do not preclude it;
 - (c) provide sufficient retail and other commercial services and public open space amenities for station area employees, BART riders, and residents of the station area and nearby residential and commercial uses;

- (d) promote a station area appearance which will project a positive image and have high regional and local identity;
- (e) achieve cooperative development actions by BART and the private sector which will more fully utilize the station area resources; and
- (f) develop areas intensively used by pedestrians at a human scale and with adjoining uses which will visually and functionally enliven the area.

3-121. There are several specific plan policies which shall be applied to development proposed for the BART District property at the Pleasant Hill station. Refer to the Pleasant Hill BART Station Specific Plan for the policies.

Transportation

3-122. In cooperation with Pleasant Hill, Walnut Creek, and transit operators, determine the feasibility of establishing bus service along the SPRR right-of-way between Concord and Rudgear Road.

POLICIES FOR THE OAK ROAD AREA

3-123. The area east of Oak Road between Todd Lane and Walden Road is designated Multiple Family Residential-High Density, with a density range of 12.0 to 29.9 units per acre. However, developments in excess of 22 units per net acre shall only be considered for each of the parcel assembly areas shown in Figure 3-3 after preparation of an Environmental Impact Report. In addition to the normal CEQA concerns, the EIR will need to explore off-site transportation fees and impacts to adjacent single family neighborhoods.

3-124. Projects proposed in the Oak Road area described above shall be granted only through a Planned Unit District zoning process which includes all parcels within one of the specified sub-areas shown on Figure 3-2, i.e., all parcels fronting along Kingston Place or Annette Court. Applications for areas smaller than these sub-areas shall be restricted to residential densities allowed by the R-15 zoning.

Projects in the area shall be designed in such a way as to minimize traffic and drainage impacts in the area. Multiple family projects will be required to participate in off-site traffic improvements such as widening Oak Road to its planned ultimate width across the Contra Costa Canal, signalizing the Oak Road/Walden Road intersection, and area-wide drainage improvements. In addition, any project shall be designed to prevent runoff onto neighboring properties except through specific flood control improvements.

POLICIES FOR THE CHERRY LANE AREA

3-125. Properties between Del Hombre Lane and Cherry Lane are designated Multiple Family Residential-Very High Density, which allows construction of apartment or condominiums

at a density of 30.0 to 44.9 units per net acre. The purpose of the designation is to allow for more intense housing adjacent to the Pleasant Hill BART station.

Projects in this area shall be designed and developed to minimize impacts on adjacent single family residential areas along Cherry Lane, and to discourage traffic diversion through the neighborhood. All development shall have access from Del Hombre Lane or at the southern end of Cherry Lane, and shall be designed to provide a transition or buffer to the adjacent single family areas. Special consideration will be given for rental housing in the area.

- 3-126. The boundary between the multiple family housing and the office uses that are designated along Treat Boulevard shall be treated flexibly. The following criteria shall apply to office projects in the area:
- (a) minimum development standards shall be those of the Limited Office zoning district;
 - (b) no parking shall be permitted on Treat Boulevard;
 - (c) no new ingress or egress is to be permitted from Treat Boulevard; and
 - (d) consideration shall be given to commercial uses that provide services to the offices on the site.

A parallel service road northerly of Treat Boulevard will need to be completed to serve new office uses. Parking for those areas will be handled in a fashion that is consistent with the existing design theme of buildings fronting along Treat Boulevard.

- 3-127. The area east of the first phase of the Hookston Square office complex on Buskirk Road shall be designed to be compatible with, and hopefully an extension of, the existing project. New office development shall be designed in such a fashion as to minimize traffic and drainage impacts on the area. Development will be required to participate in off-site right-of-way and drainage improvements.

POLICIES FOR THE SARANAP (WALNUT CREEK) AREA

- 3-128. The undeveloped hillside south of Olympic Boulevard and west of Tice Valley Boulevard is designated for Single Family Residential-Medium Density development along the base of the hill along Olympic, with the remainder of the site designated as Agricultural Lands, to reflect the steep, unbuildable slopes.

POLICIES FOR THE ALAMO-DIABLO-BLACKHAWK AREA

- 3-129. Promote the individuality and unique character of each community based on existing community images.
- 3-130. The character of the area as one of predominantly single family residences shall be developed, and multiple family residential units shall be provided in suitable densities and

Figure 3-2 Unincorporated Communities with Adopted Area Policies

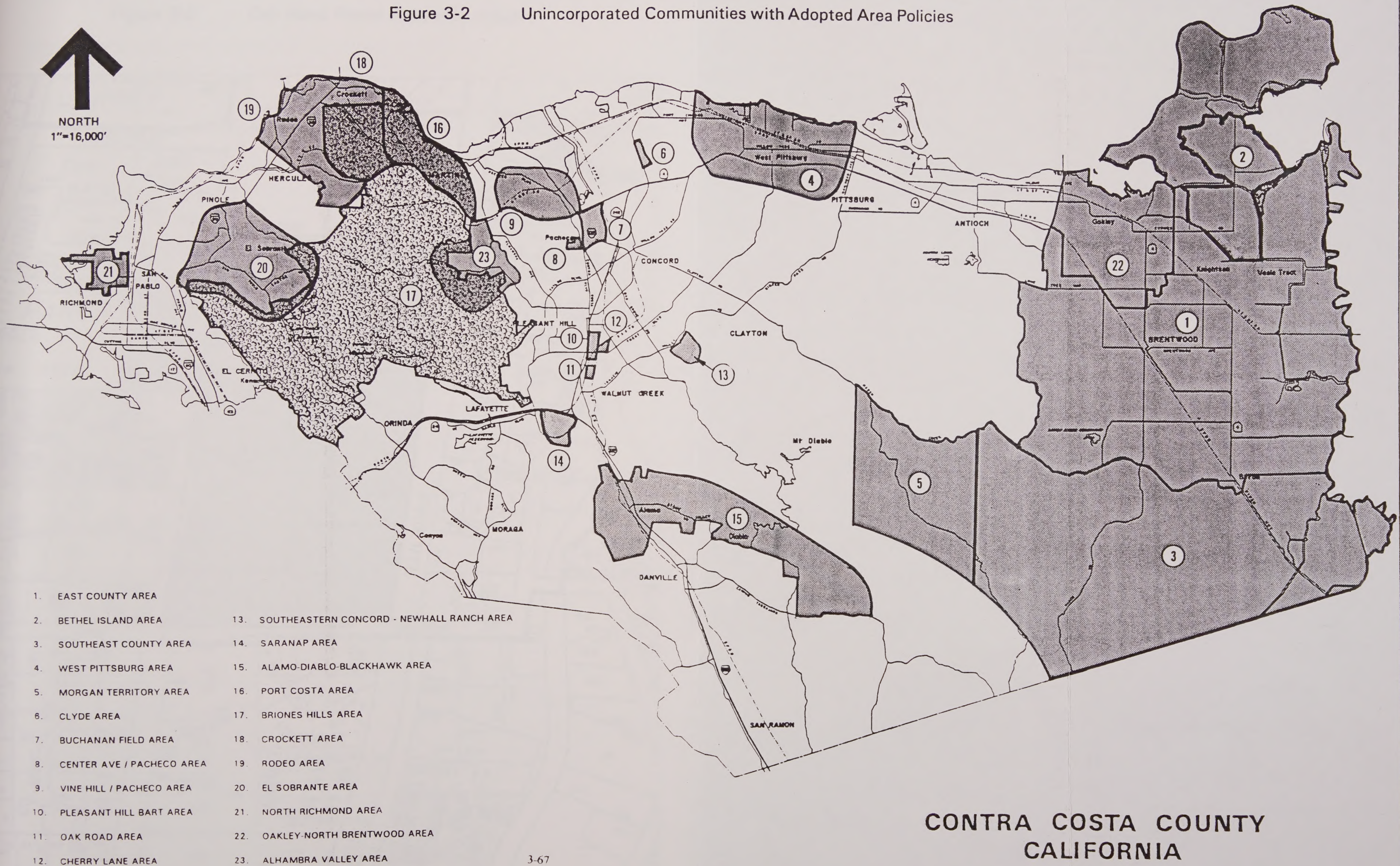


Figure 3-3

Oak Road Parcel Assembly Areas



locations. A range of densities shall be offered in order to provide for a variety of family sizes, income levels, and age groups.

- 3-131. Commercial development specifically directed to the needs of the neighborhood and community shall be encouraged. Large-scale commercial uses which rely on drawing business from outside the community are inconsistent with this plan.
- 3-132. Alamo's commercial district serves primarily the surrounding residential areas. This plan allows for continued commercial growth within the defined commercial area, which is separated from existing residential areas by the railroad on the west and transitional office uses along Orchard Court. This plan limits the expansion of these transitional uses to their existing boundaries north and south along Danville Boulevard.
- 3-133. It is the intent of this plan that the viability and desirability of single family residential uses on Jackson Way, South Jackson and Linden Court be preserved. No land use changes or project characteristics shall be permitted which would diminish these residential areas or induce land use transition.
- 3-134. The portion of Danville Boulevard north of Del Amigo Road should remain a two lane road, however, minor improvements to provide additional safety and increased capacity are acceptable.
- 3-135. The lands shown as residential on the Land Use Map adjacent to the portion of Danville Blvd. between Del Amigo Road and Rudgear Road shall be restricted to residential uses. Nonresidential uses under land use permits are inconsistent with this Plan and shall be avoided.
- 3-136. When rezoning in Alamo, the appropriate single family residential zoning will include R-20, R-40, R-65 and R-100 and P-1. Both Alamo and Diablo have special characteristics which preclude clustering in established areas.
- 3-137. Encourage commercial development that is related to the needs of the neighborhood and community. Regional scale shopping centers are not considered appropriate.
- 3-138. Developments shall be reviewed to ensure the continued rural character of the area.

POLICIES FOR THE PORT COSTA AREA

- 3-139. The Plan for the Port Costa area restricts multiple family dwellings to multiple use buildings in the commercial area.
- 3-140. The Plan endorses the establishment of a regional recreation area in the vicinity of Port Costa which is oriented towards pedestrian use and day use.
- 3-141. A key concept of the Plan is to permit only open space uses on the lands surrounding the village, as well as the balance of the planning area.

- 3-142. The Plan limits commercial development to small shops that are on the scale of small specialty and neighborhood retail shops and that avoid automobile-oriented uses.
- 3-143. The design of structures in the commercial area can have a significant effect on the character of the district. The following design policies are provided so that construction and renovation in the commercial area will preserve and contribute to the unique and historic nature of the town:
- (a) New construction must be placed close to the property line along the street, rather than set back on the lot, to provide for continuous commercial frontage along the sidewalk. Variances from required setbacks may be necessary to accomplish this purpose. However, placement of on-site parking in front of a proposed structure is not acceptable; and
 - (b) Building design should complement existing commercial structures and the historic character of the town. The incorporation of historic design features such as window moldings, dormers, balustrades, columns, wood siding, brackets and detailed cornices is encouraged. The facade treatment is particularly important. Care should be exercised in the selection of building materials and colors.
- 3-144. While the Countywide Open Space Element and Conservation Element offers policies for general application, this plan sets forth the following specific policies for the Port Costa area:
- (a) Subdivision of open space lands into ranchette size parcels is not in conformance with this plan; twenty acres is the minimum parcel size; and
 - (b) Development of open space lands for residential uses is contrary to this plan. (In the event the Plan is amended to allow subdivision of open space lands for residential purposes, proposed projects must utilize a planned unit development format, as reflected in the P-1 zoning ordinance.)

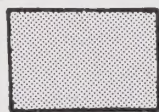
POLICIES FOR THE BRIONES HILLS AREA

- 3-145. This plan strongly supports the intent of the Briones Hills Agricultural Preservation Area compact that was signed by the County and the cities of Martinez, Pleasant Hill, Walnut Creek, Lafayette, Orinda, Richmond, Pinole, and Hercules in 1988.

The compact states that the jurisdictions voluntarily agree not to annex any lands within the 64 square mile area for the purposes of allowing urban development (see Figure 3-4). This rural area includes large properties owned by either the East Bay Municipal Utility District or the East Bay Regional Park District, which are designated "Watershed" and "Parks and Recreation" on the General Plan land use map. The remaining properties are used primarily for grazing cattle and are designated "Agricultural Lands." This plan anticipates that the area will remain in public and agricultural use during the planning period.

Figure 3-4

Briones Hills Agricultural Preservation Area



BRIONES HILLS AGRICULTURAL PRESERVATION AREA
(ADOPTED 3/ 1987)

POLICIES FOR THE CROCKETT AREA

- 3-146. In cooperation with the Crockett Improvement Association, develop Specific Plans for such purposes as the rehabilitation of commercial areas, land use decisions and growth management, public safety, regional traffic controls and major transportation facilities such as bridge and BART station.
- 3-147. Discourage industrial traffic that could impact the safety and efficiency of Crockett's non-industrial and emergency vehicle traffic.
- 3-148. Extend Cummings Skyway west of I-80 to San Pablo Avenue to provide direct freeway access for industrial traffic, to minimize industrial traffic through Crockett and Rodeo, and to direct east-bound regional traffic from the San Pablo reliever route back onto I-80 prior to entering Crockett.
- 3-149. Recognize that Crockett was not designed for use by an abundance of motor vehicles. Narrow streets and a lack of off-street parking have resulted in congestion, particularly parking congestion. Personnel of the Crockett-Carquinez Fire Protection District fear the possibility that fire fighting equipment may be blocked in an emergency situation. Expanded residential areas should not be served by existing roadways that function as Local Roads.
- 3-150. The goal of the Plan is to protect and enhance the quiet, small town atmosphere of Crockett's residential neighborhoods, and provide for new development that is compatible with this goal.
- 3-151. Encourage mixed uses in the downtown area, consistent with the present pattern of residential and business uses.
- 3-152. Emphasize office uses along Loring Avenue in order to broaden the employment base and to minimize parking congestion.
- 3-153. Provide that homes located in extreme or high fire hazard areas be constructed with fire-resistant materials and the surroundings be irrigated and landscaped with fire-resistant plants.
- 3-154. The category of Single Family Residential-Low Density occurs selectively within the Planning Area. One area is along Dowrelia Drive along a steep hillside with poor road access. A limitation on additional development is appropriate here without major improvements to road access.
- 3-155. One area designated Multiple Family Residential-Low Density is located along a steep north slope adjacent to Winslow Street. This area can be developed for clustered units but must be done so as to not obstruct views of the Carquinez Straits from the existing neighborhood.
- 3-156. A large vacant parcel owned by the County located adjacent to I-80 northeast of the Wickland Oil Company tank farm is designated Public and Semi-Public. This property is to be reserved for construction of a planned industrial arterial road between I-80 and San Pablo Avenue.

- 3-157. Projects proposed along these scenic routes will be reviewed to determine if there would be adverse visual impacts, and if so, mitigation measures will be applied. The guidelines for determining visual impacts include, but need not be limited to, the following:
- (a) long views across Carquinez Straits or the Bay should not be blocked;
 - (b) if a structure interrupts long views across Carquinez Straits or the Bay, the structure should be designed to enrich the scenic quality as much as possible;
 - (c) extreme topographic modification, such as cutting off a ridge top, is to be avoided; and
 - (d) structures highly visible from scenic routes should be designed to blend and harmonize with the natural scenery or background.
- 3-158. In order to protect the scenic environment of Crockett, it is a policy of this plan that identified scenic ridges and woods should not be obliterated. Any construction that takes place on identified scenic ridges should be designed with respect for the natural scenic qualities of the locality. In areas designated for development of steeply sloping lands, the following principles should be strictly applied:
- (a) High quality engineering of slopes is required to avoid soil erosion, downstream flooding, slope failure, loss of vegetative cover, high maintenance costs, property damages, and damages to visual quality. Particularly vulnerable areas should be avoided. Slopes over 25% are generally not suited for conventional cut and fill pad development;
 - (b) Where flood control and drainage works are required along natural water courses, special consideration should be given to using innovative means of retaining the natural appearance of the waterway, and preserve the vegetation and wildlife it supports;
 - (c) Conservation of the scenic beauty of the planning area requires restoration of natural contours and vegetation after grading and other land disturbances, and the design of public and private projects to minimize damages to significant trees and other visual landmarks;
 - (d) Public facilities for outdoor recreation should remain an important land utilization objective in the community, to promote high visual quality, air quality maintenance, and to enhance outdoor recreation opportunities of all residents; and
 - (e) Extreme topographic modification, such as filling in canyons or removing hilltops is to be avoided. Clustering and planned unit development approaches to development are encouraged. All future development, whether large or small scale, should be based on locating safe and suitable sites for buildings, roads and driveways. Edwards canyon is very sensitive to erosion and siltation problems and should be given special protection.

Scenic Waterways are watercourses which receive use by fishing and recreational boat traffic and traverse areas of significant scenic quality. The scenic waterway designation applies to the waterway and its shoreline.

- 3-159. The shoreline and hills along the Carquinez Strait between Crockett and Martinez constitute one of the few undeveloped coastal areas in the East Bay. The scenic beauty of the area enhances, and is complemented by, the historic town of Port Costa. Preservation of this resource through the establishment of a recreation area is encouraged by this plan.
- 3-160. Crockett has an abundance of charming Victorian buildings. The special scenic and historic qualities of the town should be reflected in a sensitive approach to rehabilitation of these buildings. The structures listed below have been identified as local historic places, reflecting their historic and cultural importance to the community. It is a policy of this plan that the following places should be protected and their historic qualities should be preserved and enhanced:
- (a) the American Legion Hall at Pomona and Alexander Streets;
 - (b) the Rolph Park Monument at Pomona Street and Rolph Park Drive;
 - (c) the Railroad depot on Loring Avenue;
 - (d) the Crockett Auditorium on Pomona Avenue;
 - (e) the Episcopal Church on Pomona Avenue;
 - (f) the C&H Company House and Guest house in Crotona Heights;
 - (g) the Crockett Library on Loring Avenue;
 - (h) the Edwards Homestead; and
 - (i) the Loring Road Victorians.

POLICIES FOR THE RODEO AREA

- 3-161. Mitigate the affects of industrial traffic on downtown streets.
- 3-162. Direct the major portion of new residential development towards infilling and redevelopment of Rodeo proper.
- 3-163. Encourage reuse of existing buildings.
- 3-164. Establish the waterfront area as a focal point for the community by the development of a mixture of multiple family parkland, retail and commercial recreational land uses.
- 3-165. Focus waterfront development around a shoreline park and promenade.

- 3-166. Develop a portion of the Rodeo Creek channel as a linear park.
- 3-167. Maximize public access to the bay.
- 3-168. Provide for a creek setback zone in Franklin Canyon to preserve the natural drainageway.
- 3-169. Encourage particularly the renovation of Rodeo's notable architectural specimens.
- 3-170. The policies set forth below are intended to guide the revitalization of Old Rodeo.
- (a) A mixture of land uses, residential and commercial, must be established;
 - (b) A community parking plan must be devised and implemented to provide a sensible framework for development in Old Rodeo;
 - (c) When on-site parking is provided it should be established at the rear of commercial properties so that a unified commercial frontage is presented to the sidewalk;
 - (d) Zero building setbacks (as provided for in the C-B zone or by variance procedures) are necessary for continuity with existing buildings;
 - (e) Landscaped courtyards, atriums and streetside plantings should be included in development plans to provide visual and physical relief from the hard surfaces of the urban landscape;
 - (f) Sitting places for resting, socializing or people watching should be incorporated into project designs;
 - (g) Developers are encouraged to preserve and reuse Rodeo's architectural specimens; and
 - (h) Provide for integration of development in Old Rodeo with the waterfront area.
- 3-171. The waterfront is one of Rodeo's biggest assets. However, at the present time access to the waterfront is limited both visually (by the service commercial type buildings located along San Pablo Avenue) and physically (by the Southern Pacific railroad line). By designating this area Commercial Recreation in the Plan it is anticipated that properties will eventually convert to uses which capitalize upon the proximity of the bay.

The Recreation Element provides for a waterfront promenade between the marina and the sanitary district facility. This linear recreation facility in combination with commercial recreation businesses could provide an exciting focal point for the town.

Large scale development in the Commercial Recreation area must be predicated upon a thorough study of the waterfront. Comprehensive development policies incorporated into a specific plan or waterfront development plan and implementation program must be in place before such development can proceed.

- 3-172. The property south of 7th Street along both sides of Willow Avenue up to Interstate 80, while designated for Commercial, shall be highway-oriented. The linear park proposed along the Rodeo Creek Channel will need to be integrated into the design of this property. Development on parcels along the proposed park portion of the creek should be oriented to the creek as well as surrounding roads and parking lots. The linear park can serve as a bicycle and pedestrian corridor to the Rodeo Shopping Center as well as a space of recreation. This area will need to be heavily landscaped to minimize impact on adjacent residential areas. Development of this area is to be with low level buildings and the site between Hawthorne and 7th Street must be developed as an integrated unit. The northern boundary of this site is intended to reflect the planned realignment of 7th Street to form an intersection with San Pablo Avenue.
- 3-173. An isolated parcel along Willow Avenue abutting Hercules, between San Pablo and I-80, is designated Office, but due to the surrounding street pattern, land uses which generate large amounts of traffic are not compatible with this location.
- 3-174. Retail businesses and services directly or indirectly related to recreational uses of the shore area are compatible with the Commercial Recreation designation, including restaurants, chandlers, hotels or motels, and bait and tackle shops.
- 3-175. The Light Industry designation is employed in the Franklin Canyon area along the north side of Highway 4, across from the golf course. This is a particularly striking section of a designated scenic route and its visual beauty must be preserved through careful scrutiny of proposed light industrial projects. In particular, project proponents should address height, color and appearance, and landscaping.
- 3-176. A buffer of Agricultural Lands around the eastern Union Oil property is created in this plan to separate the Viewpointe residential area from future industrial development on the Union property. These open space lands should remain essentially undeveloped.
- 3-177. In the Rodeo area there are presently no public park or recreation areas separate from school sites (which are designated Public/ Semi-Public), aside from the public access designated on the shore. Private property shown in this designation such as the Franklin Canyon Golf Course should remain in essentially open space recreation uses. More intensively developed, privately owned recreation property is designated as Commercial Recreation.
- 3-178. Development of the opposite side of 7th Street is needed to complete the alignment of 7th Street and establish this important circulation connection.
- 3-179. This plan proposes three new recreation sites in Rodeo plus the development of unused land at Hillcrest Elementary School. The Plan designates a linear park and trail along the Rodeo Creek channel from Interstate 80 north-northeast to 4th Street. A waterfront promenade is indicated running between the railroad overpass to the marinas and the Rodeo sewage treatment plant. The promenade is intended to focus upon one of Rodeo's greatest amenities, San Pablo Bay.

- 3-180. Lone Tree Point, a state-designated natural area, has been shown as a recreational site in the General Plan since 1957. This plan continues this practice. The property is privately owned at present, but should eventually come under public control to allow for improved access and use.

This plan supports the concept of the Carquinez Straits Regional Shoreline Park on the border between the Rodeo and Crockett planning areas, which is planned by the East Bay Regional Park District in their Master Plan. This plan also affirms the policy in the East Bay Regional Parks District Master Plan that a regional shoreline trail extending from Martinez to Point Pinole shall be implemented.

The trails plan also shows a trail along Rodeo Creek from the southwestern edge of the planning area to the waterfront downtown.

- 3-181. The majority of open space in this plan is located in the Franklin Canyon area and the adjacent hills. The steep topography and unstable slopes which characterize the hills limit their fitness for development.

Open space designations for this area reinforce the Countywide goal of agricultural preservation for continued agricultural productivity. The existing pattern in the open space area of relatively large parcels under consolidated ownership is necessary to successful range practices and will be maintained under this plan. The scenic value of the Franklin Canyon area has been asserted by the Rodeo community and is reflected in the scenic route designated for Highway 4 in the scenic routes section of the Transportation and Circulation Element. The hills and ridges along this route are the primary source of the corridor's visual quality and every effort should be made to protect its scenic characteristics.

- 3-182. Because of noise related impacts, both from transportation sources and from industry, acoustical studies will be required for major new developments and multiple family projects in the Planning Area even those extending beyond the 60 CNEL Noise Contours.

POLICIES FOR THE EL SOBRANTE AREA

- 3-183. In cooperation with the City of Richmond, develop a Specific Plan for the San Pablo Dam Road commercial corridor to provide detailed plans and implementation measures to increase parking for shoppers and increase roadway capacity for through traffic.
- 3-184. Minimize the number of streets and driveways intersecting or entering San Pablo Dam Road, Appian Way and Valley View Road.
- 3-185. Provide for well-designed projects and limited vehicular access to traffic arterials through the assembly of the deep, narrow parcels of land along San Pablo Dam Road and Appian Way.
- 3-186. The overall goal of the area is to retain and reinforce the semi-rural and suburban character of the community with its strong emphasis on single family residences, the feature which has drawn most residents to the area.

- 3-187. Provide for well designed projects and limited vehicular access to traffic arterials through the assembly of the deep, narrow parcels of land along San Pablo Road and Appian Way.
- 3-188. Discourage new areas of strip commercial development in the community.
- 3-189. Require development of more public off-street parking in the commercial core area along San Pablo Dam Road, so as to increase traffic bearing capacity of the arterial.
- 3-190. Upgrade the community's drainage system to eliminate problems caused by local inundation, ponding and sheet overflow during storms, and eliminate open drainage ditches along portions of Appian Way and San Pablo Dam Road and throughout the community.
- 3-191. In view of the existing traffic problems and the limited ability of the circulation system to adequately handle substantial growth in traffic volumes, new development should be approved at the low to mid range of the respective single family residential land use density designations.
- 3-192. This plan calls for residential development to be directed primarily to areas where infilling of previously "passed over" property can occur, as well as to a limited number of larger parcels of undeveloped acreage. These larger parcels include the western slope of Sobrante Ridge, and the lower portions of the north face of San Pablo Ridge.
- 3-193. A major policy of this plan is to eliminate deep, narrow lots through the aggregation of land parcels in areas designated for multiple family use. Every effort should be made to encourage the aggregation of such lots to provide for better designed projects.
- 3-194. Areas outside the present and committed area of service capability of EBMUD and West Contra Costa Sanitary District are to be retained in the Open Space category.
- 3-195. In order to retain the ridgelines around El Sobrante in their natural state, it is recommended that a ridgeline preservation ordinance be developed which would prohibit the placement of any structure on or near the crest of a scenic ridge, such as San Pablo Ridge or Sobrante Ridge. All land above the 400' elevation shall not be developed for suburban purposes unless in conformance with the Land Use Plan Map.

POLICIES FOR THE NORTH RICHMOND AREA

- 3-196. The plan for North Richmond designates housing in the Single Family Residential-High Density category (5 to 6.9 units per net acre), which also allows duplexes. A significant vacant area west of Third Street, between the two creeks, is also designated for single family homes and could result in more than a doubling of population in the area if it is developed in residential uses.
- 3-197. Major employment uses in the area are designated either Commercial, Heavy Industry, Light Industry, or Agricultural Lands. The latter category designate the existing nursery operations, which represent the most lucrative agricultural products in the County. The existing commercial area at 3rd Street and Chelsey is also designated for retail uses.

- 3-198. A Redevelopment Plan for the North Richmond area was adopted by the Board of Supervisors in July 1987. All development proposals should be reviewed by, and coordinated with, Redevelopment Agency staff to ensure compatibility with the Redevelopment Plan. Additionally, involvement with the redevelopment process will allow the County to coordinate concurrent development proposals and to possibly facilitate the construction of public improvements that will further the goals of the Redevelopment Plan.

3.9 POLICIES FOR SPECIAL CONCERN AREAS

Three areas have been designated Special Concern Areas in view of their key locational qualities. These areas are the Appian Way corridor (Figure 3-5), the San Pablo Dam Road commercial area (Figure 3-6), and San Pablo Ridge (Figure 3-7). Each of these areas is discussed below in detail.

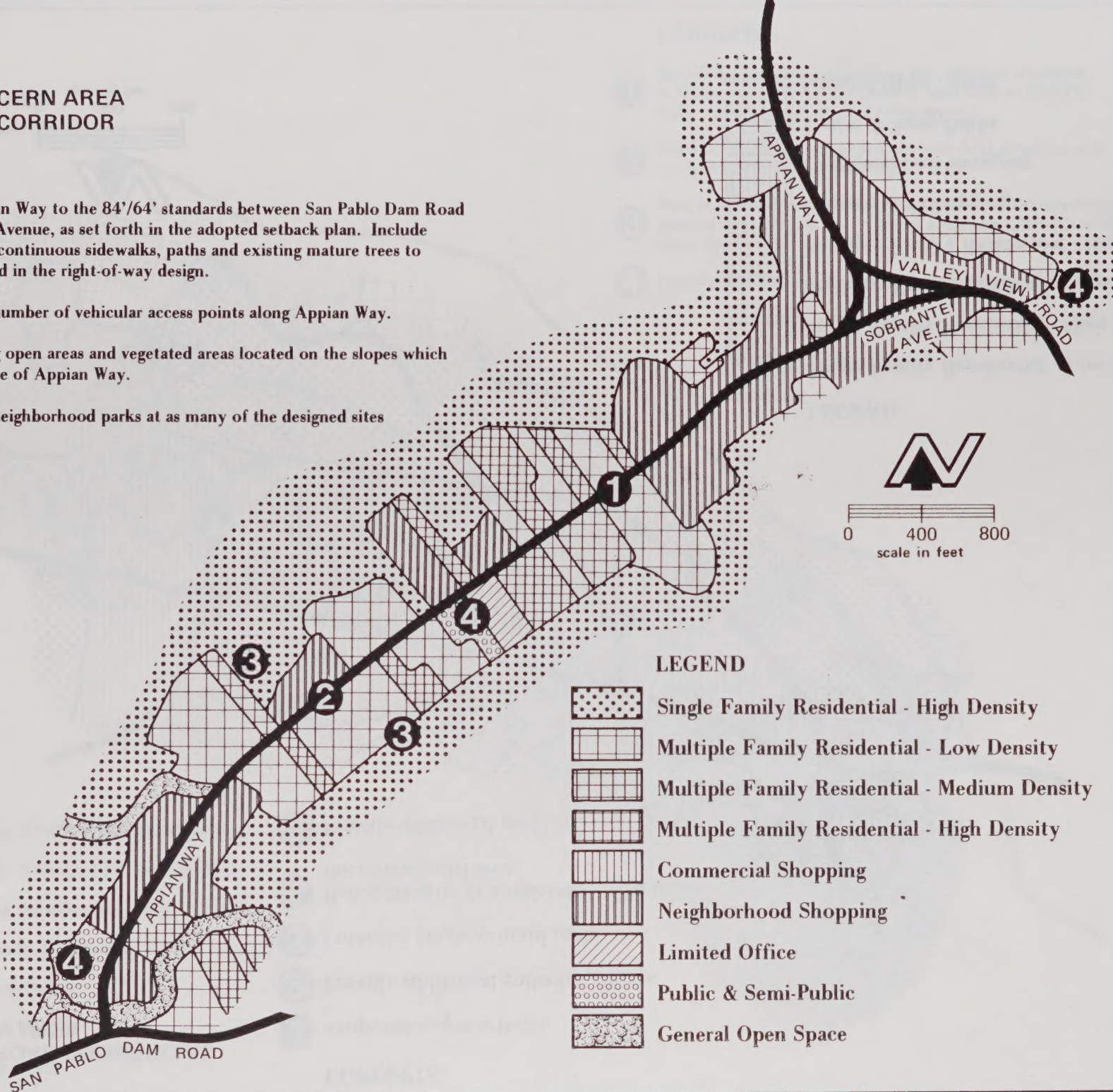
POLICIES FOR APPIAN WAY CORRIDOR

- 3-199. The Appian Way Corridor Special Concern Area is to develop into a unified, well-designed neighborhood rather than an incremental accumulation of unrelated developments.
- (a) Adhere to the adopted Appian Way Precise Plan, which provides for a standard of an 84 foot right-of-way. Develop continuous sidewalks and a bicycle path separated from automobile traffic, but designed within the right-of-way;
 - (b) Where possible, retain existing mature trees located either within or encroaching into the potential right-of-way, and incorporate them into the overall roadway design;
 - (c) Provide appropriate traffic signalization as new development occurs along the corridor, with each development required to pay an appropriate share of the cost;
 - (d) Eliminate the hazardous ditches along Appian Way by installing appropriate storm drains as a part of right-of-way improvements;
 - (e) Project design should reflect the objective of providing well-designed development suited to the building sites, at appropriate densities;
 - (f) Commercial areas should maintain a low profile by limiting building height to 35 feet;
 - (g) Emphasis should be on landscaping and architectural continuity along Appian Way, with building masses deemphasized;
 - (h) Variances to parking standards shall not be granted;
 - (i) Design of buildings shall be interesting and innovative, but should have a harmonious relationship with each other;

SPECIAL CONCERN AREA APPIAN WAY CORRIDOR

CONCEPTS

- 1 Develop Appian Way to the 84'/64' standards between San Pablo Dam Road and Sobrante Avenue, as set forth in the adopted setback plan. Include provisions for continuous sidewalks, paths and existing mature trees to be incorporated in the right-of-way design.
- 2 Minimize the number of vehicular access points along Appian Way.
- 3 Retain existing open areas and vegetated areas located on the slopes which flank either side of Appian Way.
- 4 Provide small neighborhood parks at as many of the designed sites as feasible.



LEGEND

	Single Family Residential - High Density
	Multiple Family Residential - Low Density
	Multiple Family Residential - Medium Density
	Multiple Family Residential - High Density
	Commercial Shopping
	Neighborhood Shopping
	Limited Office
	Public & Semi-Public
	General Open Space

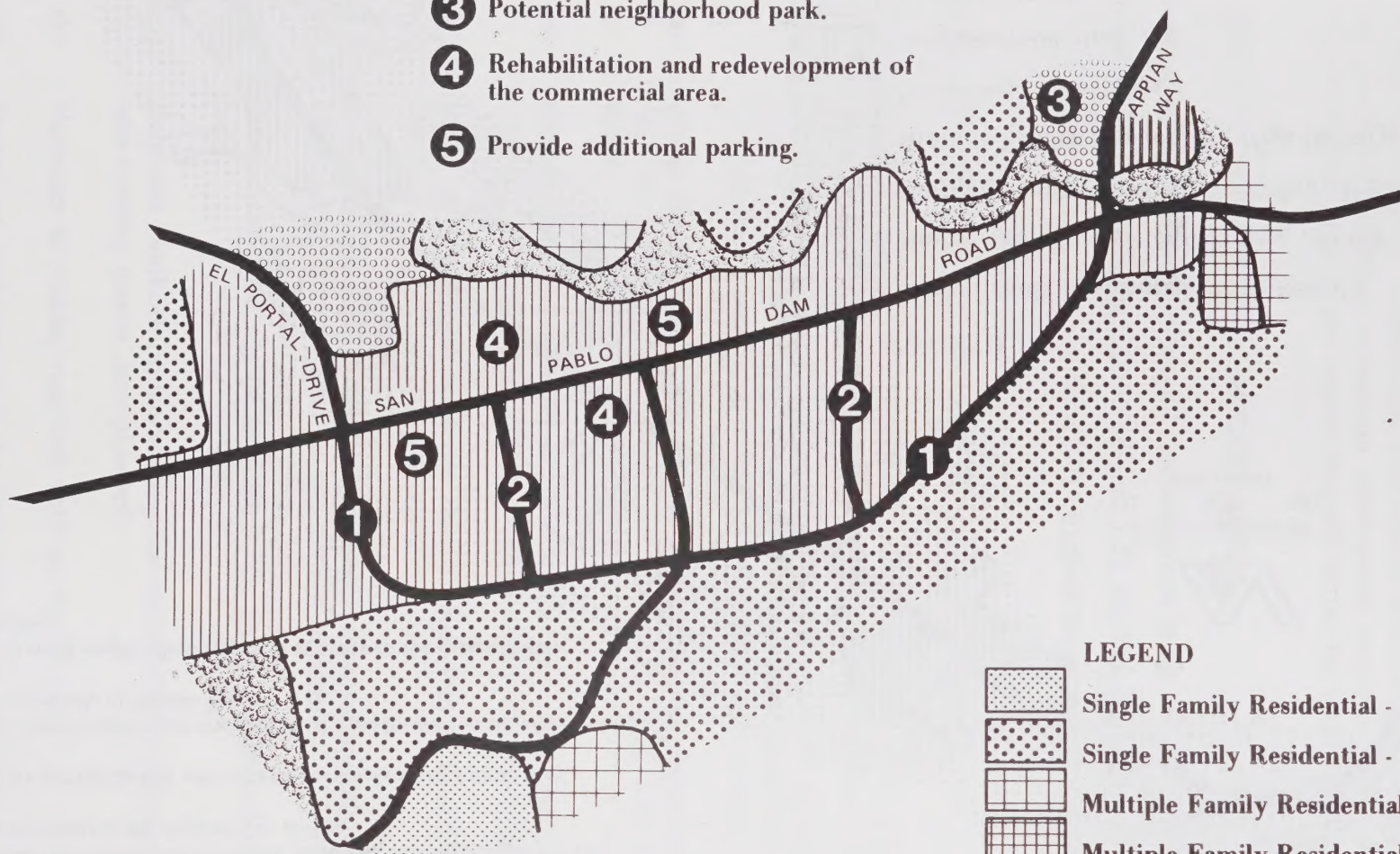
Figure 3-5

Appian Way Corridor Special Concern Area

SAN PABLO DAM ROAD COMMERCIAL SPECIAL CONCERN AREA

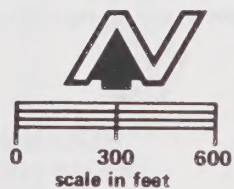
CONCEPTS

- 1 Proposed major arterial.
- 2 Provide additional collector streets.
- 3 Potential neighborhood park.
- 4 Rehabilitation and redevelopment of the commercial area.
- 5 Provide additional parking.



LEGEND

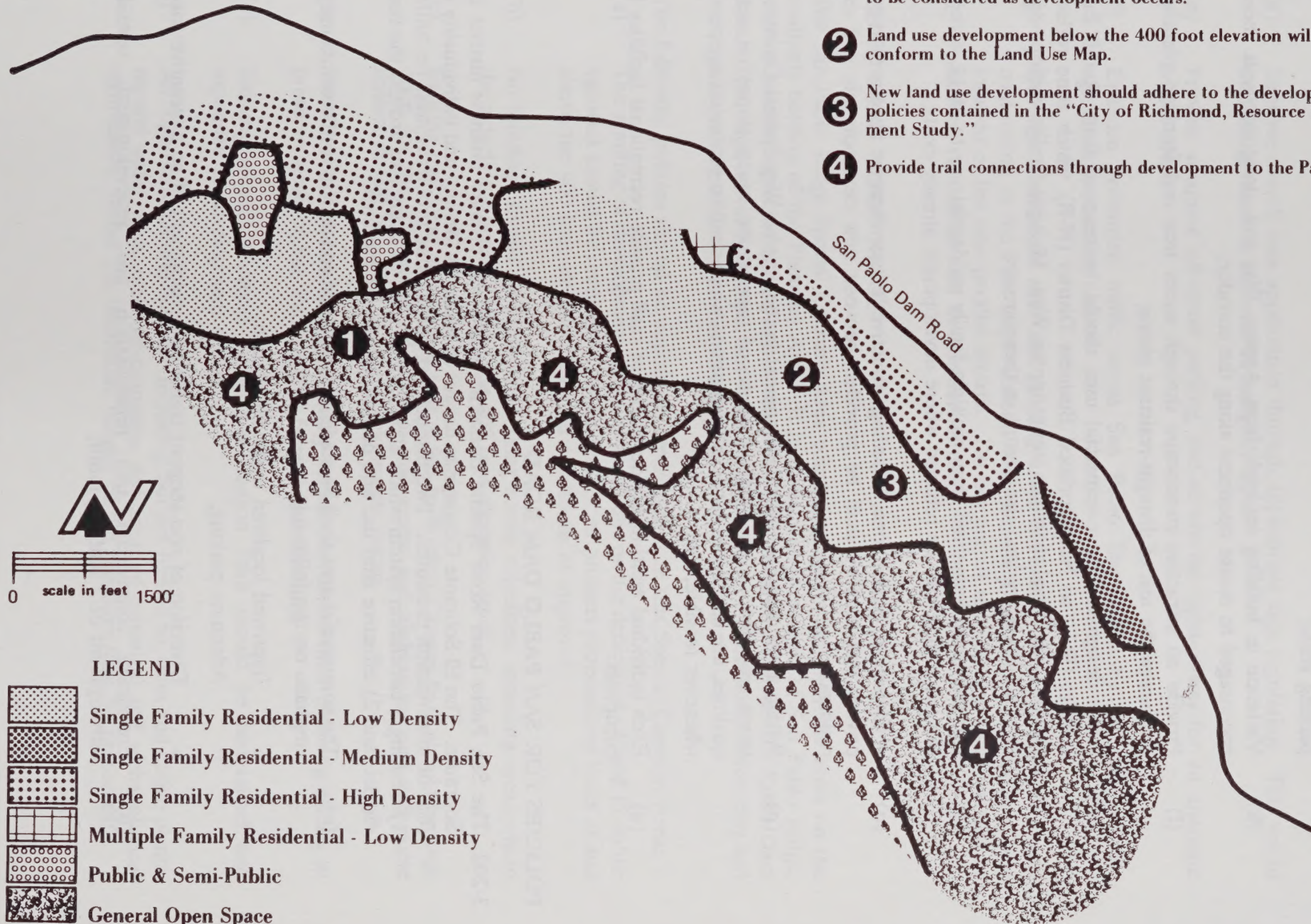
	Single Family Residential - Low Density
	Single Family Residential - High Density
	Multiple Family Residential - Low Density
	Multiple Family Residential - High Density
	Commercial Shopping
	Neighborhood Shopping
	Public & Semi-Public
	General Open Space



**SAN PABLO RIDGE
SPECIAL CONCERN AREA**

CONCEPTS

- 1** Retain the area generally above the 400 foot elevation as Open Space with dedication of that land to EBRPD to be considered as development occurs.
- 2** Land use development below the 400 foot elevation will conform to the Land Use Map.
- 3** New land use development should adhere to the development policies contained in the "City of Richmond, Resource Management Study."
- 4** Provide trail connections through development to the Park.



LEGEND

	Single Family Residential - Low Density
	Single Family Residential - Medium Density
	Single Family Residential - High Density
	Multiple Family Residential - Low Density
	Public & Semi-Public
	General Open Space
	Parks & Recreation

Figure 3-7

San Pablo Ridge Special Concern Area

- (j) Consolidation of parcels shall be encouraged with emphasis on combined access and parking areas;
- (k) Variation in building set-back from Appian Way and along sideyards should be encouraged to create openness along the corridor;
- (l) Provide an attractive streetscape through street tree and frontage planting and encourage the use of drought-resistant plants;
- (m) Areas designated for commercial uses should be rezoned from Retail Business District (R-B) to Neighborhood Business District (N-B), which zone reflects the desired commercial character along Appian Way. Multiple family development shall not be allowed by land use permit in these areas;
- (n) Rezone areas designated from multiple family residential use to M-12, except that current zoning may be retained where development already exists;
- (o) A landscaped buffer zone, including attractive fences wherever necessary to provide privacy and security shall be provided between new developments and existing residences;
- (p) Within areas designated for development in the Appian Way Special Concern Area there are those areas which, because of topography, steep slopes or aesthetic qualities, are unsuitable for development and which shall be protected as open space whenever feasible; and
- (q) Each individual multi-family development shall provide recreational facilities for its occupants.

POLICIES FOR SAN PABLO DAM ROAD

3-200. The San Pablo Dam Road Special Concern Area is the primary business district for El Sobrante. The El Sobrante Community desires to retain its identity and individuality in the face of urbanization pressures. Two distinct, yet interlocking problems must be addressed: 1) devising a circulation system which allows traffic into, through, and around the business district, and 2) effective land use and design policies for the area.

- (a) The commercial area shall be made attractive and convenient to the community with emphasis on the following:
 - o Improved localized traffic circulation,
 - o Adequate parking,
 - o Diversion of non-shopper traffic by development of an alternative roadway;
- (b) Encourage commercial area rehabilitation and redevelopment, considering development of a unifying motif;

- (c) Commercial expansion shall be directed away from San Pablo Dam Road frontage to create a deeper and more appropriately shaped commercial district;
- (d) Improve overall area appearance through appropriate sign regulation. This would eventually result in removal of unsightly signs;
- (e) Provide adequate off-street parking, and secure the right-of-way for an alternate traffic route;
- (f) Enhance pedestrian traffic across San Pablo Dam Road by well marked and signalized crosswalks; and
- (g) Develop commercial sites and parking areas contiguous to existing development, conforming to the Plan map. Extend such uses only as far south as the proposed location of the new parallel arterial. Do not permit non-contiguous conversion of existing residential uses to commercial use;

POLICIES FOR SAN PABLO RIDGE

3-201. The San Pablo Ridge Special Concern Area consists of approximately 1,000 acres on the southerly borders of the Planning Area. It includes a large portion of San Pablo Ridge, with its heavily vegetated slopes, and an area below of lesser slopes near San Pablo Dam Road. The ridge provides an important visual reference to the El Sobrante Community and is a logical greenbelt border to the Planning Area.

The following policies should be applied to development in this Special Concern Area:

- (a) The granting of development rights to the public or the dedication of land to public agencies should be required of developers for all projects proposed on lands at and above the 400 foot elevation level, as conditions of approval;
- (b) No buildings should be constructed along scenic ridgelines, including areas where the ridgeline is located below the 400 foot elevation level;
- (c) Existing trail head parking and trail access to Wildcat Canyon Park should be kept open for the community. Additional trail access and parking for cars and horse trailers should be added as new developments occur;
- (d) The City of Richmond and the County should coordinate their planning efforts to preserve views of San Pablo Ridge from the community;
- (e) Existing means of access to Wildcat Canyon Park should be maintained and expanded as development occurs;
- (f) All "significant natural features" including, but not limited to, trees and native plants, natural water ways, rock out-croppings and areas of historical and archaeological significance, within the immediate vicinity of the ridgeline shall be preserved;

- (g) A landscaped buffer zone, including attractive fences wherever necessary to provide privacy and security, should be provided between new developments and existing residences; and
- (h) Local civic groups should study the creation of a special assessment district to purchase San Pablo Ridge or develop the appropriate mechanisms in order to retain the ridge as permanent open space.

JOINT PLANNING PROCESS

The City of San Ramon and the County of Contra Costa have entered into a MOU for the purpose of facilitating a joint planning process for reviewing and developing a specific plan for Dougherty Valley. Such a plan would be consistent with the County ULL and with policies/standards contained within Section 4, Growth Management Element. The City of San Ramon and the County will jointly process the Dougherty Valley project approvals and a specific plan has not been finalized at this time. Joint planning is also occurring in other areas, including the Alamo Springs plan with the Town of Danville. Therefore, this area is not included in the discussion of area plan policies.

POLICIES FOR THE SOUTHEASTERN CONCORD/CALIFORNIA STATE UNIVERSITY - NEWHALL RANCH PLAN AREA

- 3-202. For those lands located adjacent to the southeasterly portion of the City of Concord, which are part of the Newhall Ranch Area Plan, compliance shall be maintained with the Newhall Ranch Area Plan as adopted by the City of Concord on July 12, 1976 or as amended by the City, in order to ensure consistency, compatibility and environmental sensitivity with the existing land use patterns along this portion of Ygnacio Valley Road and adjacent to the California State University Campus. Development of this land shall occur through application and annexation to the City of Concord.

4. GROWTH MANAGEMENT ELEMENT

TABLE OF CONTENTS

	<u>Page</u>
4.1 INTRODUCTION	4-1
4.2 RELATIONSHIP TO OTHER GENERAL PLAN ELEMENTS	4-2
4.3 TRAFFIC SERVICE STANDARDS AND FACILITIES STANDARDS	4-4
4.4 GOALS, POLICIES AND IMPLEMENTATION MEASURES	4-5
Goals	4-5
Policies	4-6
Implementation Measures	4-12

4. GROWTH MANAGEMENT PROGRAM

4.1 INTRODUCTION

The purpose of this Element is to establish policies and standards for traffic levels of service and performance standards for fire, police, parks, sanitary facilities, water and flood control to ensure generally that public facilities consistent with adopted standards are provided. By including this Element in the adoption of the General Plan, the County intends to establish a long range program which will match the demand for public facilities to serve new development with plans, capital improvement programs and development impact mitigation programs. The intent is to ensure that growth takes place in a manner that will ensure protection of the health, safety and welfare of both existing and future residents of Contra Costa County.

The responsible management of growth in the County is key to preserving the quality of life for current and future County residents.

This Growth Management Element is the culmination of a process which was created by the Mayors' Conference and the County Board of Supervisors. The Contra Costa Transportation Partnership Commission was established as a Transportation Authority under State law (PUC Section 180000) to provide a forum for transportation issues in the County and to propose ways to reduce traffic congestion. The Commission was established as the Transportation Authority under State law to develop a Countywide Comprehensive Transportation Plan.

The Transportation Authority, recognizing the difficulty of obtaining sufficient State and federal monies to meet the County's transportation needs, initiated Measure C - 1988, approved by the voters, which added one-half cent to the County sales tax to be used for transportation funding. In order to receive local street maintenance and improvement funds under Measure C, the County must develop a Growth Management Element as part of its General Plan.

This Growth Management Element complies with the model element developed by the Transportation Authority and includes the sections required by Measure C - 1988 to be part of this Growth Management Element. These sections (1) adopt traffic levels of service standards (LOS) keyed to types of land use, and (2) adopt performance standards maintained through capital projects for fire, police, parks, sanitary facilities, water and flood control. The Transportation Authority for the County recognizes that facilities standards, as are discussed in this Element, establish performance standards to be applied in the County's development review process.

In addition to adopting this Growth Management Element as part of the General Plan under Measure C - 1988, the voters of the County, in Measure C - 1990, reaffirmed that growth management should be an integral part of this General Plan.

This Element is also adopted pursuant to the authority granted to local jurisdictions by Section 65303 of the Government Code of the State of California, which states:

"The General Plan may include any other elements or address any other subjects which, in the judgement of the legislative body, relates to the physical development of the county or city."

4.2 RELATIONSHIP TO OTHER GENERAL PLAN ELEMENTS

As indicated in Section 3, Land Use Element, the Growth Management Element works closely in conjunction with the Land Use Element to ensure that development proceeds in a manner which will not negatively affect facility and traffic service standards for existing land uses. In this regard, it should be noted that developments which cannot satisfy the assurances required by these standards should not be approved. By utilizing this Growth Management Element to responsibly manage new development proposals, the County will ensure that new development projects will bear their appropriate share of the adverse burdens and impacts they impose on public facilities and services. As a result, the Growth Management Element must be carefully considered together with Land Use and other elements of this General Plan when assessing General Plan consistency. The timing of the potential physical development contemplated in the Land Use Element will in part be determined by the ability of developers to satisfy the policies and standards described in this Growth Management Element. The Urban Limit Line (ULL) and the 65/35 Land Preservation

Standard also work together with the Growth Management Element to ensure that growth occurs in a responsible manner and strikes appropriate balances between many competing values and interests.

In addition, this Growth Management Element contains implementing programs which encourage new development to facilitate the attainment of the goals and objectives of the Conservation Element; the Public Facilities and Services Element; and the Housing Element. Moreover, by establishing an interjurisdictional monitoring program, the Growth Management Element coordinates the implementation of the County General Plan with those of the 18 cities in the County.

To carry out the goals and objectives of the Land Use and Circulation Elements of the Plan, new development must demonstrate that the level of service standards of the Growth Management Element will be met. Only in this way will the negative effects of such growth be avoided. While it is anticipated that new growth will be able to mitigate its potential impacts through development fees and other exactions, it is possible that the timing of project approvals may be affected by the inability of individual developments to carry its appropriate cost of full service increments needed to allow further growth in a given area of the County. Thus, the improvements needed to implement the Circulation and Public Facilities and Services Elements of the Plan will in part be directly tied to, and dependent upon, the implementation of the Growth Management Element. Similarly, implementation of the Land Use Element will only proceed when it can be demonstrated that the growth management standards can be met by new development.

Policies relating to this "Pay as you Grow" philosophy underpinning the Growth Management Element can be found in the Transportation and Circulation Element, Overall Transportation/Circulation Goals 5-E and 5-F, and in the Overall Transportation/Circulation Policies 5-1 through 5-4. Related Land Use Element Goals 3-F and 3-H and Land Use Policies 3-5 through 3-10 are also part of the policy framework which underlies the Growth Management Element, and are integrally related to it. In a similar fashion, each of the required growth management performance standards included in this Element is also included in the Public Facilities and Services Element under the applicable goals and policies listed for sewers, water, police, fire, parks and flood control.

4.3 TRAFFIC SERVICE STANDARDS AND FACILITIES STANDARDS

The basic unit of measurement of performance of an intersection or roadway segment is called a Level of Service (LOS). LOS is a measure of the ratio of the volume to capacity of a roadway or intersection and is expressed as a letter A through F. In general LOS A describes free flowing conditions, and F describes very congested conditions, with long delays. Routes of Regional Significance are those roadways which carry significant volumes of through traffic, which neither begins nor ends within the affected jurisdiction. They generally include Interstate Freeways and State Highways, as well as local roads which, due to their location between job and housing centers, carry significant volumes of intra-county trips. All other roadways included in the circulation network of the general plan are referred to in the Growth Management Element as Basic Routes. Basic routes, and their signalized intersections, are those to which LOS standards are applied in determining whether proposed projects may be approved. The methodology used in determining if projects exceed allowable LOS standards is the Circular 212 Method with Operation Method Capacities.

At present, most Basic Routes in the unincorporated area operate at or better than the LOS Standards specified in the Growth Management Element. Routes of Regional Significance are generally below these standards, however, reflecting the fact that the trips are not dependent upon land uses in unincorporated Contra Costa County, but are cumulative with traffic generated by land uses located outside of the unincorporated areas. Public Protection Facility standards contained in this plan are based upon the 1990 facilities to unincorporated population ratio. In the area of parks, for example, the current unincorporated population to park acreage yields a ratio of less than 1 acre per 1,000 persons. While certain developed areas of the County experience flooding in the event of the 100-year flood, the County Ordinance Code collect-and-convey requirements are applied to all new developments. Water and sewer services are generally adequate for existing development.

For the purposes of establishing a Public Protection Facility standard, several factors must be considered. Firstly, the unincorporated community of Kensington has established a Community Services District which provides the full range of police services in the area, and the Sheriff does not service this area. Secondly, the California Highway Patrol is responsible for enforcement of the Vehicle Code on highways and County roads throughout the unincorporated area. Thirdly,

certain economies of scale enable the Sheriff to provide patrol and investigation services in physical facilities substantially smaller than a comparable series of cities would require, due to centralized administrative services, crime lab facilities and other similar functions which numerous cities would duplicate in each location. According to the Department, very little time is spent by deputies in the stations; nearly all is spent in the vehicles on patrol; no clericals are housed in the stations. In addition, the Sheriff also provides coroner services, incarceration and criminalistics services. For these reasons, direct comparisons between County facilities standards and standards that may be adopted by cities in the County are not advised, since such comparisons would be highly misleading.

The computation of a Sheriff facility standard in this General Plan includes only patrol and investigation services, adjusted for a marginal increase in centralized administrative services. As of January, 1991, the County provides approximately 155 square feet of floor area per thousand population in six locations throughout the County.

It should be noted that implementation of the goals of this Plan's various elements depends not only upon the County's administration of the Growth Management Program described below, but upon the interplay of several levels of government. Federal and State funding for improvements to basic routes will be required to attain and maintain traffic levels of service at designated levels. Finally, the County, the 18 cities, the Contra Costa County Transportation Authority, the Bay Area Rapid Transit District, and the California Department of Transportation will all have to work cooperatively in order to mitigate the negative impacts of growth upon the regional transportation system to achieve the levels of population, housing and jobs anticipated by this Plan.

4.4 GOALS, POLICIES AND IMPLEMENTATION MEASURES

GOALS

- 4-A. To provide for the levels of growth and development depicted in the Land Use Element, while preserving and extending the quality of life through the provision of public facilities and ensuring traffic levels of services necessary to protect the public health, safety and welfare.
- 4-B. To establish a cooperative interjurisdictional growth monitoring and decision making process in which each jurisdiction can share in the beneficial aspects of new growth, and avoid its potential negative effects.

POLICIES

- 4-1. New development shall not be approved in unincorporated areas unless the applicant can provide the infrastructure which meets the traffic level of service and performance standards outlined in Policy 4-3, or a funding mechanism has been established which will provide the infrastructure to meet the standards or as is stated in other portions of this Growth Management Element.
- 4-2. If it cannot be demonstrated prior to project approval that levels of service will be met per Policy 4-1, development will be temporarily deferred until the standards can be met or assured. Projects which do not, or will not, meet the standards shall be scheduled for hearing before the appropriate hearing body with a staff recommendation for denial, on the grounds that the project is inconsistent with the goals, policies, and objectives of the Growth Management Element of the County General Plan.
- 4-3. Table 4-1 shows the performance standards which shall apply to development projects. In the event that a signalized intersection on a Basic Route exceeds the applicable level of service standard, the County may approve projects if the County can establish appropriate mitigation measures, or determine that the intersection or portion of roadway is subject to a finding of special circumstances, or is a route of regional significance, consistent with those findings and/or action plans adopted by the Contra Costa Transportation Authority pursuant to Measure C - 1988. Mitigation measures specified in the action plans shall be applied to all projects which would create significant impacts on such regional routes, as defined by the Authority in consultation with local agencies and as permitted by law. For the purpose of reporting to the Contra Costa Transportation Authority in compliance with the Growth Management Program, a list of intersections that will be reported on basic routes will be prepared and maintained by the Community Development Department.
- 4-4. The County shall institute an ongoing growth management program process, as generally depicted in Figure 4-1.
- 4-5. For the purpose of applying the Traffic Level of Service standards consistent with Measure C - 1988 only, unincorporated areas subject to the growth management standards of this Element shall be characterized as Central Business District, Urban, Suburban, Semi-rural and Rural as depicted in Figure 4-2.

Traffic

LOS Standards will be considered to be met if:

- o measurement of actual conditions at the intersection indicates that operations are equivalent to or better than those specified in the standard; or
- o the County has included projects in its adopted capital improvements program which, when constructed, will result in operations equal to or better than the standard.

TABLE 4-1
GROWTH MANAGEMENT
PERFORMANCE STANDARDS

Traffic Levels of Service Keyed to Land Use Type

Rural Areas:	Peak Hour Level of Service of low C (Volume/Capacity Ratio= .70-.74)
Semi-Rural Areas:	Peak Hour Level of Service of high C (Volume/Capacity Ratio= .74-.79)
Suburban Areas:	Peak Hour Level of Service of low D (Volume/Capacity Ratio= .80-.84)
Urban Areas:	Peak Hour Level of Service of high D (Volume/Capacity Ratio= .85-.89)
Central Business Districts (CBD):	Peak Hour Level of Service of low E (Volume/Capacity Ratio= .90-.94)

Note: These terms are used solely with reference to the Growth Management Element performance standards.

Figure 4-1

Flow Chart of Growth Management Process

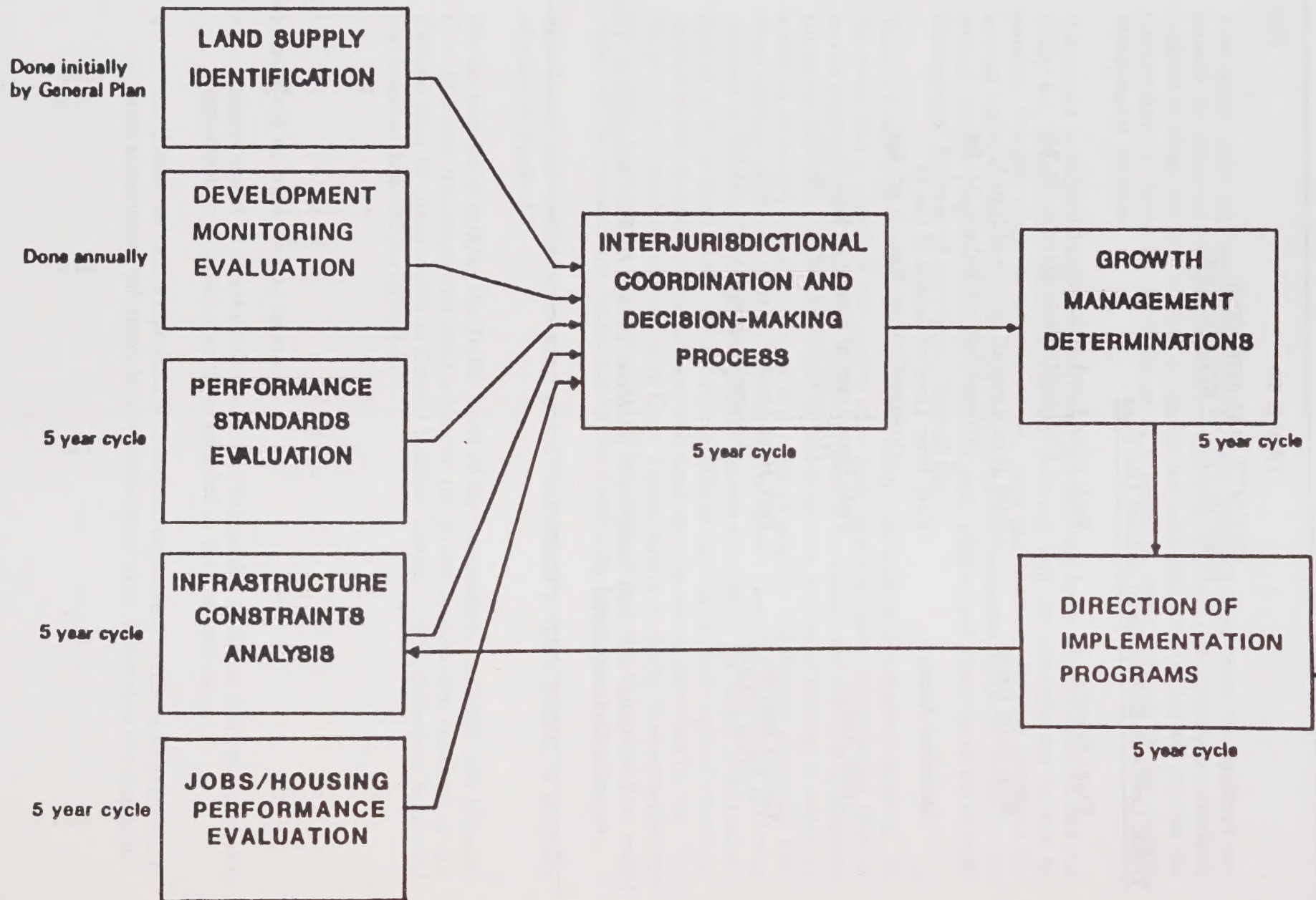
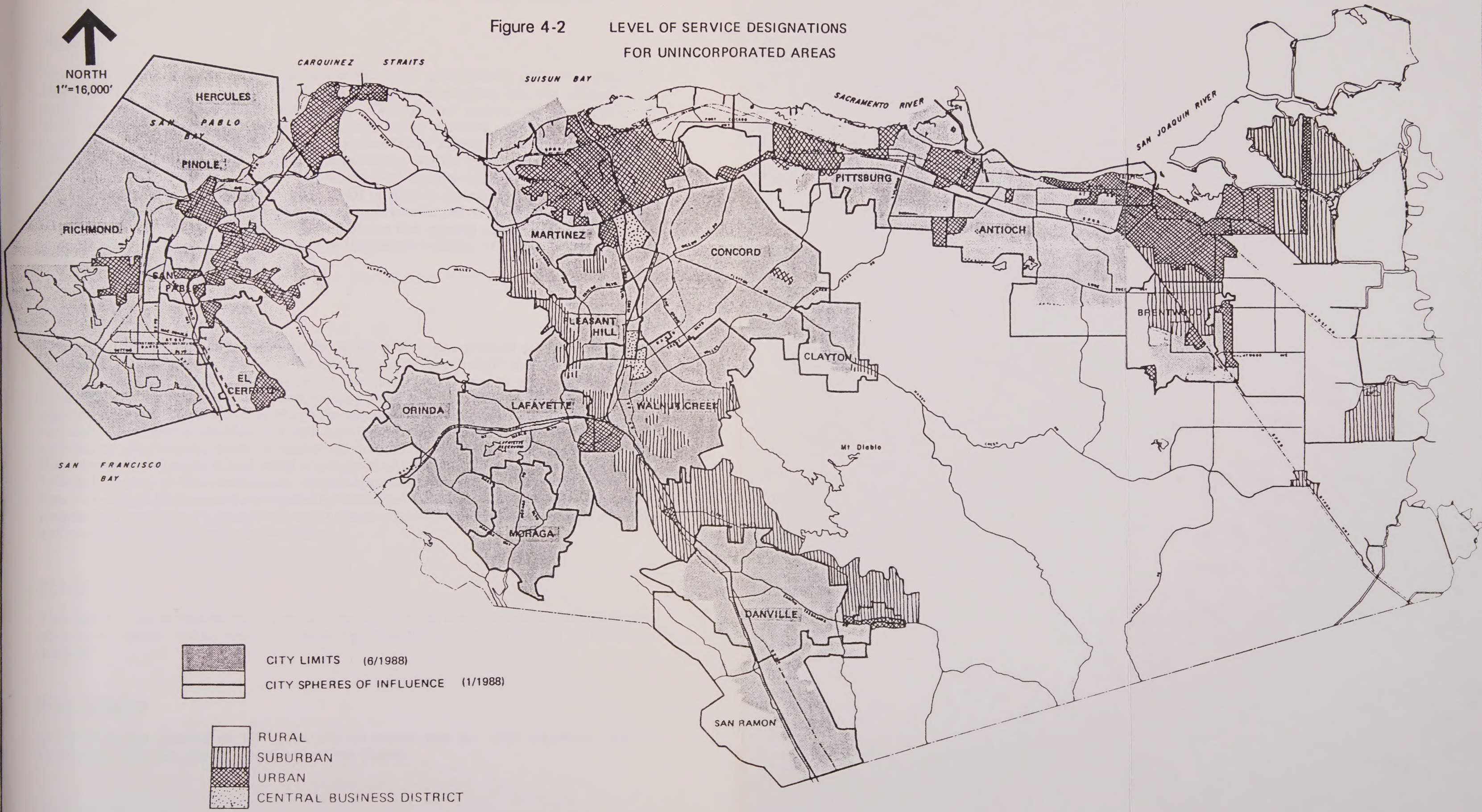


Figure 4-2
LEVEL OF SERVICE DESIGNATIONS
FOR UNINCORPORATED AREAS



CONTRA COSTA COUNTY
CALIFORNIA

Water

The County, pursuant to its police power and as the proper governmental entity responsible for directly regulating land use density or intensity, property development and the subdivision of property within the unincorporated areas of the County, shall require new development to demonstrate that adequate water quantity and quality can be provided. At the project approval stage, the County may consult with the appropriate water agency. The County, based on information furnished or available to it from consultations with the appropriate water agency, the applicant or other sources, should determine whether (1) capacity exists within the water system if a development project is built within a set period of time, or (2) capacity will be provided by a funded program or other mechanism. Project approvals conditioned on (1) or (2) above, will lapse according to their terms if not satisfied by verification that capacity exists to serve the specific project ("will serve letters"), actual hook-ups or comparable evidence of adequate water quantity and quality availability.

Sanitary Sewer

The County, pursuant to its police power and as the proper governmental entity responsible for directly regulating land use density or intensity, property development and the subdivision of property within the unincorporated areas of the County, shall require new development to demonstrate that adequate sanitary sewer quantity and quality can be provided. At the project approval stage, the County may consult with the appropriate sewer agency. The County, based on information furnished or available to it from consultations with the appropriate sewer agency, the applicant or other sources, should determine whether (1) capacity exists within the sewer system if the development project is built within a set period of time, or (2) capacity will be provided by a funded program or other mechanism. Project approvals conditioned on (1) or (2) above, will lapse according to their terms if not satisfied by verification that capacity exists to serve the specific project ("will serve letters"), actual hook-ups or comparable evidence of adequate sewage collection and wastewater treatment capacity availability.

Fire Protection

Fire stations shall be located within one and one-half miles of developments in urban, suburban and central business district areas. Automatic fire sprinkler systems may be used to satisfy this standard.

Public Protection

A Sheriff facility standard of 155 square feet of station area per 1,000 population shall be maintained within the unincorporated area of the County.

Parks and Recreation

Neighborhood parks: 3 acres required per 1,000 population.

Flood Control and Drainage

Require major new development to finance the full costs of drainage improvements necessary to accommodate peak flows due to the project. Limit development within the 100 year flood plain until a flood management plan has been adopted and implementation is assured. For mainland areas along rivers and bays, it must be demonstrated that adequate protection exists through levee protection or change of elevation prior to development. Development shall not be allowed in flood prone areas designated by the Federal Emergency Management Agency until a risk assessment and other technical studies have been performed.

IMPLEMENTATION MEASURES

- 4-a. Incorporate the performance standards outlined in Policy 4-3 into the review of development projects.
- 4-b. Work cooperatively with the 18 cities and the Contra Costa County Transportation Authority through each of the Subregional Transportation Committees to define action plans for mitigating the impacts of development on Routes of Regional Significance.
- 4-c. Require traffic impact analysis for any project which is estimated to generate 100 or more AM or PM peak-hour trips based upon the trip generation rates as presented in the Institute of Traffic Engineers (ITE) Trip Generation, 4th edition, 1985.
- 4-d. Require that during the review of development proposals, the traffic impact analysis shall determine whether a project could cause a signalized intersection or freeway ramp to exceed the applicable standard and shall identify mitigations/fees such that the intersection or ramp will operate in conformance with applicable standards. Development proposals shall be required to comply with conditions of approval detailing identified mitigation measures and/or fees. In no event shall Local Road Improvement and Maintenance Funds replace development mitigation fee requirements, pursuant to Measure C.
- 4-e. Establish through application to the Contra Costa Transportation Authority, and in conjunction with the regional committees, a list of Routes of Regional Significance and Intersections proposed for Findings of Special Circumstances. Proposed projects affecting these routes and/or intersections will require alternate mitigation as specified in Action Plans to be adopted by the Authority, but in this respect only, shall not be subject to LOS Performance Standards. A preliminary list, adopted by the County as an Interim Measure, includes the following:

West County

- o Interstate 80
- o San Pablo Avenue-Parker Avenue-Willow Avenue
- o San Pablo Dam Road-Camino Pablo
- o Appian Way
- o Valley View Road

Central County

- o Interstate 680
- o State Route 24
- o State Route 4 Freeway
- o Pacheco Boulevard (South of Arthur Road)
- o Pleasant Hill Road-Taylor Boulevard
- o Treat Boulevard
- o Crow Canyon Road (West of San Ramon)
- o Ygnacio Valley Road

East County

- o State Route 4 Freeway

Intersections Proposed for Findings of Special Circumstances:

West County

- o Pomona Avenue/Second Avenue
- o El Portal Drive/Glenlock Drive
- o I-80 Westbound off-ramp/Cummings Skyway

Central County

- o Reliez Valley Road/Grayson Road
- o Olympic Boulevard/Tice Valley Boulevard

East County

- o State Route 4/Lone Tree Way
- o State Route 4/Byron Highway (Borden Junction)

The following facilities shall be designated regional routes in the County General Plan:

State Facilities

- o Interstate 80
- o Interstate 580
- o Interstate 680

- o State Route 4
- o State Route 24
- o State Route 242

Surface Streets

East County

- o Bailey Road
- o Byron Highway, South of SR4
- o Proposed Delta Expressway
- o Evora Road
- o Kirker Pass Road
- o Lone Tree Way
- o Walnut Avenue
- o Willow Pass Road
- o Vasco Road

Central County

- o Pacheco Boulevard, south of Arthur Road
- o Taylor Boulevard
- o Treat Boulevard
- o Waterfront Road

West County

- o Appian Way, West of Sobrante Avenue
- o Cummings Skyway
- o Oled Highway 40
- o Parker Avenue
- o Richmond Parkway
- o San Pablo Avenue
- o San Pablo Dam Road
- o Valley View Road

- 4-f. In the event that any basic route does not meet adopted standards the County shall consider amendments to either its General Plan Land Use Element, Zoning, Capital Improvement program or other relevant plans or policies in order to attain the standards. If this is not feasible for the reasons specified in the Transportation Authority's "Implementation Guide: Traffic Level of Service Standards and Programs for Routes of Regional Significance" application for findings of special circumstances shall be made to the Transportation Authority. Such application shall include alternative proposed standards and mitigation measures.

- 4-g. Capital projects sponsored by the County and necessary to maintain and improve traffic operations will be specified in a five year Capital Improvement Program (CIP). Funding sources for such projects, as well as intended project phasing, if any, shall be generally identified in the CIP.
- 4-h. The County will participate in the Contra Costa Transportation Authority Conflict Resolution Process as needed to resolve disputes related to the development and implementation of Action plans and other programs described in the Authority's Mode Growth Management Element.
- 4-i. Following adoption of Regional Route Action Plans, the County will implement specified local actions in a timely manner, consistent with adopted action plans.
- 4-j. As part of its program to attain Traffic Service levels, the County shall continue to implement its Transportation System Management Ordinance.
- 4-k. No development project shall be approved unless findings of consistency have been made with respect to Policy 4-3.
- 4-l. The County will adopt a development mitigation program to ensure that new development pays its fair share of the cost of providing Police, fire, parks, water, sewer and flood control facilities.
- 4-m. The County will only approve projects after finding that one or more of the following conditions are met:
 - (a) Assuming participation in adopted mitigation programs, performance standards will be maintained following project occupancy;
 - (b) Because of the characteristics of the development project, specific mitigation measures are needed to ensure the maintenance of standards, and these will be required as conditions of project approval; or,
 - (c) Capital improvements planned by the service provider will assure maintenance of standards
- 4-n. Capital Projects sponsored by the County and necessary to maintain levels of performance shall be identified in the Five year CIP. Funding sources for the complete cost of the improvements, and phasing, if any, shall also be identified.
- 4-o. All new development shall contribute, to or participate in, the improvement of the Parks, fire, police, sewer, water and flood control systems in reasonable proportion to the demand impacts and burdens generated by project occupants and users.
- 4-p. The County Shall develop and carry out a growth management/ monitoring program as generally indicated in Figure 4-1, as follows:
 - (a) a land supply and development monitoring process;

- (b) periodic review of performance standards and monitoring of infrastructure constraints;
- (c) interagency coordination and decision-making to provide information for the first two tasks and successfully implement the overall growth management program;
- (d) a jobs/housing performance evaluation to determine their relative balance within each sub-region of the County; and
- (e) growth management determinations, a process which identifies growth areas capable and incapable of meeting performance standards, and directs resources to overcoming any constraints.

These components are described in detail below.

Adoption of Performance Standards

The first step in the growth management program process is completed upon the adoption of performance standards for public facilities and services in this Growth Management Element. Figure 4-1 shows the flow chart of the growth management process.

Land Supply/Development Monitoring Analysis

The second step in the growth management process, an analysis of land supply and development monitoring, will commence at the beginning of each calendar year. Annual status reports on the implementation of the General Plan and its growth management program will be submitted to the Board of Supervisors and City Councils in June. This status report will fulfill the requirements of Government Code 65400 (b) in the State planning and zoning laws, which requires that every city and County must prepare an annual report to the City Council or Board of Supervisors which summarizes the status of the General Plan and the progress that has been made in its implementation. The subsequent steps in the process, commencing with the performance standards evaluation, will occur on a five-year cycle.

The land supply and development monitoring process is a two-part component designed as the basis for the periodic re-examination of lands available in the County for urban development. The availability of developable lands is then contrasted against the actual rate of growth which has been measured over the most recent period. In essence, this component is a land supply and demand tracking process. This process is designed to work in tandem with the other four components (performance standards/infrastructure constraints analysis, interjurisdictional coordination,

jobs/housing balance analysis, and growth management determinations) in order to obtain an updated, working perspective of the current capacity of the County to accommodate growth.

The land supply and development monitoring process is prepared in an objective fashion by staff, using a set methodology defined and agreed to by the jurisdictions involved (the County, the 18 cities, the Local Agency Formation Commission (LAFCO) and the individual service providers). The re-examination of the land supply (initially set by the General Plan Review Program) will occur on an annual basis, in concert with the State Population Certification program which is already conducted jointly between the County and city planning departments. (This existing program involves each jurisdiction reporting to the County the number of housing completions in each census tract during the calendar year.)

Using a standard format and methodology should provide a high degree of confidence in the process and the established annual schedule should alert the development interests, city agencies, and special districts as to when their contribution will be critical. At the beginning of each annual cycle, formal notification will be given to each of the cities informing them that the land supply and development monitoring process is being initiated and requesting their active participation and cooperation.

The Land Use Information System (LUIS), developed in 1987 by County and city planning staffs and consultants for the General Plan Review Program, provides the foundation for tracking overall land supply, land absorption, and changing land uses in the County. The specific questions that must be answered during this process with the use of the updated LUIS data system are:

- o how many acres of vacant land in the County, specified by land use type, are identified as available for development?
- o what changes have occurred in these numbers since the previous evaluation?
- o how many acres of underutilized or previously developed land are available for redevelopment?
- o how many acres of land County-wide have been identified as unavailable for development based upon environmental, health and safety, public resource, or other conditions? The County Community Development Department staff will prepare a report which examines the absorption rate (i.e. approved development projects) and the General Plan Amendment requests that have been received. The report on the status of development areas will rely upon residential and commercial/industrial building permit and other project approval

information from the cities. This permit approval and General Plan Amendment application information will then be compared to the expected rate of residential and job growth projected for the jurisdiction over the planning period by the respective General Plans. The annual report will be forwarded to decision-making bodies for use in reviewing further General Plan Amendments which would alter the land supply component.

Performance Standards Evaluation and Infrastructure Constraints Analysis

While the second component of the growth management program (land supply and development monitoring) will be prepared on an annual basis, the final four components will generally be performed only once every five years. Although these final four components of the Growth Management Program will be comprehensively and formally evaluated every five years, circumstances may necessitate evaluating and modifying the standards during the annual review of the land supply and development component of this Growth Management Program. If circumstances so necessitate, the Board of Supervisors should consider all information before it, including the Land Supply/Development Monitoring Analysis, fiscal constraints, and other information obtained through consultation with the County Transportation Authority, before modifying the standards. The data and analysis generated in the annual land supply and development monitoring reports will be aggregated for use in the tasks outlined in the following processes.

The intent of this third component of the growth management program, performance standards and infrastructure capacity evaluation, is to re-examine minimum allowable performance standards for development projects set in the General Plan, and to determine the remaining available capacities of certain infrastructure facilities.

The growth management program for the Contra Costa County General Plan mandates the establishment of infrastructure performance standards for several different services or facilities, including circulation (traffic), sanitary sewage, flood control and drainage, water supply, police and fire protection and emergency services, and parks and recreation. These standards and policies attempt to define a quality of life by setting benchmark indicators of the minimum levels of service required for specific urban services.

Every five years the performance standards would be reviewed by staff and the service providers by examining prior experience and ability to serve. In addition, service districts may be provided

an opportunity to explain why certain standards are not being met and to explore measures to be taken to alleviate the situation. This information would then be used to evaluate whether the standards for the current review period were appropriate.

The second major task to be completed during this phase of the growth management program is an evaluation of the remaining infrastructure capacity in various areas of the County. Part of this evaluation will determine where and why certain existing urbanized areas are not being adequately served. The assumption is that adequate infrastructure capacities can be engineered and built to serve virtually any amount and location of urban growth within the ULL, but that opportunities exist to plan for cost-effective and efficient growth in areas particularly within the ULL, where underutilized infrastructure capacities already exist or where the extension of services is relatively unconstrained compared to other areas.

The basic data requirements of this portion of the process include:

- o a determination of the remaining capacity for each facility or service provider based upon the defined performance standards, and identification of the geographic areas that could be served by the capacity;
- o an itemization of funded infrastructure improvement projects, their location and expected date of completion, and the service area or population they are designed to serve;
- o identification of urbanized areas with inadequate service, as defined by the adopted performance standards;
- o an itemization of the major capital improvements not now funded but needed to bring existing areas into compliance with the performance standards;
- o itemization of major capital improvements necessary to serve anticipated future development at the adopted service level, and the cost of these improvements;
- o identification of major physical, economic and/or environmental constraints to the provision of service or facilities in a given area; and
- o identification of possible sources of funding for the improvements.

The object of the data gathering is to illustrate where future growth can and cannot occur without major investment in new or improved infrastructure systems, and to identify the level and source of financing required. Additionally, the exercise will allow the preparation of estimates of future required capacity based upon the performance standards. One outcome of this process will be to

provide with up-to-date information concerning where future growth is expected to occur, thus assisting in capital facilities planning efforts.

To ensure that high density "leapfrog" growth does not occur, as a matter of policy, this growth management program mandates that new urban and central business district levels of development shall not be approved unless the development is within the ULL and near existing or committed urban or central business district levels of development.

Jobs/Housing Performance Evaluation

The purpose of this step is to provide a basis for assessing the jobs/housing balance within each section of the County for the current five year review cycle, to assist the jurisdictions in the sub-regions in determining preferred locations for residential and employment growth, and to assist in focussing the direction of implementation programs.

The jobs/housing balance evaluation is based upon the County's Land Use Information System data base, augmented by the information provided in the development monitoring evaluation. The evaluation considers growth in housing units and employment and housing and employment availability, relative affordability and commute patterns, and to the extent that the data are available, price of the units and wage levels of the jobs added.

The jobs/housing performance evaluation will be used to identify areas where jobs or housing should be stimulated and encouraged. It would also be used to provide information about areas in which infrastructure deficiencies need to be corrected in order to facilitate a better jobs/housing balance.

Interjurisdictional Coordination and Decision-Making

The growth management program outlined here will not succeed without the cooperation and active participation of the County, the Local Agency Formation Commission, the 18 cities, and the service providers. These agencies and cities may view cooperation with the County's management program as a threat to their local authority over land use or other growth issues. The County's efforts to achieve cooperation must be aimed at persuading the cities and agencies that the growth management program will ultimately enhance their ability to meet their own General Plan goals.

In addition, the County will participate in the cooperative planning process established by the County Transportation Commission for the purpose of reducing the cumulative regional traffic impacts of development.

Interjurisdictional cooperation would not require all of the cities and agencies to adopt the same goals, policies and implementation measures as will be included in the County's General Plan and growth management program. However, it would be desirable for the County to request that the cities and agencies adopt resolutions that specifically recognize and accept the management program and its premise.

A key commitment by the jurisdictions involves the dedication of a relatively small, but adequate, level of staff time to assist the County in gathering the required data for the necessary planning studies. Additional commitments must be made on the part of policymakers and staff to review the annual land supply and development monitoring reports, consider them when making important planning decisions, and to actively participate in the growth management determination process every five years.

Growth Management Determinations

Building upon the preceding components of the growth management program, the final aspect of the process involves using the reports that have been generated to make the important decisions about where future growth in the County should be encouraged in order to minimize infrastructure costs and to enhance the overall level of "quality of life." The process for making these determinations is as important as the determinations themselves. The process can help to achieve consensus among cities and the County (in consultation with service providers) as to appropriate amounts and locations of new residential, commercial and industrial growth in the County. The growth management determination process should include the following steps, several of which are based upon information developed in the previous components of the program:

- o indicate on a County General Plan map the current city boundary lines, Spheres of Influence, the Urban Limit Line and current service areas for all of the major utilities/facilities;
- o add to the base map information regarding improvements or extensions to service systems that have been completed since the last review period or improvements itemized in capital

improvement programs, as well as constructed and approved development projects and adopted General Plan Amendments;

- o identify lands that have been determined to be undevelopable;
- o identify on the map the geographic areas with infrastructure constraints and the locations of development projects that have been unable to meet performance standards;
- o review the annual land supply and development monitoring reports in conjunction with the performance standards and infrastructure constraints analysis reports to determine whether an adequate supply of vacant land is designated for urban use in the County and city General Plans, on both a Countywide and subregional basis, to allow the anticipated amount of urban development during the remainder of the twenty year period. This urban development must be subject to the 65/35 Land Preservation Standard. (See Section 3, Land Use Element.)
- o Determine whether adjustment to the urban limit line is needed in order to provide sufficient land to accommodate anticipated needs.

Growth management determinations shall be made in consultation with the County Transportation Authority. In addition, it is anticipated that these growth management determinations will be made in a series of joint meetings conducted on a subregional basis with representatives of the cities. The Local Agency Formation Commission (LAFCO) and the service districts should also be consulted. Staff will present the base map and accompanying reports to the County and City Planning Commissions, LAFCO and service district boards, with a request that the agencies review the recommendations and make formal comments. After this review period is complete and appropriate changes, if needed, have been made, the map and reports will be recirculated to all of the jurisdictions in the County. The final action will be to request that the cities, LAFCO and service providers adopt resolutions in support of the recommendations and to initiate any General Plan Amendment hearings which may result from the review process.

Definitions of Terms

The following definitions apply to the geographic terms used with respect to the growth management program only. The level of service designations for unincorporated County areas are shown in Figure 4-2.

Rural. Rural areas are defined as generally those parts of the County that are designated in the General Plan for agricultural, open space or very low density residential uses, and which are

characterized by medium to very large parcel sizes (10 acres to several thousand acres). These areas have very low population densities, usually no more than 1 person per acre or 500 people per square mile.

Suburban. Suburban areas are defined as generally those parts of the County that are designated in the General Plan for low and medium density single family homes; low density multiple family residences; low density neighborhood- and community-oriented commercial/industrial uses; and other accompanying uses. Individual structures in suburban areas are generally less than 3 stories in height and residential lots vary from about one fifth of an acre (8,000 or 9,000 square feet) up to 2 or 3 acres. Population densities in suburban areas fall within a wide range, from about 1,000 to 7,500 persons per square mile (1.5 to 12.0 people per acre).

Urban. Urban areas are defined as generally those parts of the County that are designated in the General Plan primarily for multiple family housing, with smaller areas designated for high density single family homes; low to moderate density commercial/industrial uses; and many other accompanying uses. Urban areas usually include clusters of residential buildings (apartments and condominiums) up to three or four stories in height and single family homes on relatively small lots. Many commercial strips along major arterial road are considered urban areas.

Examples of urban areas in Contra Costa County are the older neighborhoods in Richmond, El Cerrito, Pittsburg, and Antioch and the downtown commercial districts in smaller cities such as Martinez, Danville, and Lafayette. Population densities in urban areas are usually at least 7,500 persons per square mile (12.0 people per acre). Employment densities in commercial areas may range up to about 15 jobs per acre.

Central Business District/Major Commercial Center. Central business districts or major commercial centers are defined as those areas designated in the General Plan for high density commercial and residential uses. They consist of either the downtown area of a major city in Contra Costa County (Concord, Walnut Creek, and Richmond) or a large business/office complex (such as Bishop Ranch or the Pleasant Hill BART station area). These areas are characterized by large concentrations of jobs and consist of clusters of buildings four stories or more in height. CBD's or major commercial centers generally have employment densities.

5. TRANSPORTATION AND CIRCULATION ELEMENT

TABLE OF CONTENTS

	<u>Page</u>
5.1 INTRODUCTION	5-1
Legal Authority	5-1
5.2 RELATIONSHIP TO OTHER ELEMENTS	5-2
5.3 RELATIONSHIP TO OTHER GENERAL PLAN DOCUMENTS	5-3
5.4 ORGANIZATION OF TRANSPORTATION AND CIRCULATION ELEMENT	5-3
5.5 EXISTING AND FUTURE TRANSPORTATION NEEDS	5-4
Existing Network	5-4
Existing Travel Demand	5-9
Future Travel Demand	5-10
Fundamental Concepts that Shape this Element	5-11
5.6 ROADWAYS AND TRANSIT	5-13
Introduction	5-13
Roadway and Transit Network Plans	5-13
Roadway Designations and Design Criteria	5-14
Transit Network Concepts	5-21
Goals	5-22
Policies	5-24
Implementation Measures	5-26
5.7 TRANSPORTATION SYSTEM MANAGEMENT	5-29
5.8 BIKEWAYS	5-30
5.9 SCENIC ROUTES	5-31
Introduction	5-31
Definition and Maps of Scenic Routes	5-31
Goal	5-32
Policies	5-35
Implementation Measures	5-35
5.10 AIRPORTS AND HELIPORTS	5-36
Introduction	5-36
Goals	5-36
Policies	5-36
Implementation Measures	5-42

5.11	PORTS AND PROPRIETARY WHARVES	5-43
	Introduction	5-43
	Goals	5-44
	Policies	5-44
	Implementation Measures	5-44
5.12	RAILROADS	5-44
	Introduction	5-44
	Goals	5-45
	Policies	5-46
	Implementation Measures	5-46

5. TRANSPORTATION AND CIRCULATION ELEMENT

5.1 INTRODUCTION

The purpose of this Element of the Contra Costa County General Plan is to establish transportation goals and policies, and to establish specific implementation measures to assure that the transportation system of the County will have adequate capacity to serve planned growth in Contra Costa County through the year 2005. The intention of this Element is to provide a plan and implementing measures for an integrated, multi-modal transportation system that will safely and efficiently meet the transportation needs of all economic and social segments of the County and provide for the transport of goods and services throughout Contra Costa County.

The transportation system outlined in this Element recognizes on the one hand the limited availability of transportation funding and, on the other hand, increased demands for mobility within Contra Costa County. As a result, the Element emphasizes the efficient use of the existing transportation system, particularly existing roadways and transit systems, and cost effective enhancements to this system to accommodate planned growth consistent with the Land Use Element. Nonetheless, the County will continue to seek revenue from a variety of sources for needed transportation improvements and to work toward the establishment of new and creative funding mechanisms (i.e., private/public and regional partnerships) consistent with the goals and policies of the Growth Management Element and Measure C - 1988.

LEGAL AUTHORITY

The Transportation and Circulation Element is prepared pursuant to Section 65302(b) of the California Government Code. This Element has been a mandatory component of local General Plans since 1955. The Transportation and Circulation Element is required to address the location and extent of existing and planned transportation routes, terminals, and other local public utilities and facilities. It is further required to be consistent with the other elements of the General Plan,

accommodating future travel demand and contributing to, rather than inhibiting, the attainment of desired land use patterns in the Land Use Element.

5.2 RELATIONSHIP TO OTHER ELEMENTS

Section 65300.5 of the California Government Code requires that the various elements of a General Plan comprise an integrated, internally consistent, and compatible statement of policies for the adopting agency. The law emphasizes that the Transportation and Circulation Element be coordinated with the Land Use Element. The transportation plan, policy, and implementing measures established by this Element comply with the requirement by utilizing the same projections of future population and economic activity as does the Land Use Element, by using the same geographic distribution of future population and economic activity as expressed in the Land Use Element map, and by designing the transportation plans and policies to contribute to the achievement of the planned land-use pattern.

The Roadway and Transit Network Plans shown in this element have been constrained to reflect limited financial resources. Consistency with the Land Use Element is maintained through the interplay of these elements with the Growth Management Element. The Transportation and Circulation Element funding programs related to capital projects are correlated with the programs contemplated in the Growth Management Element. The Transportation and Circulation Element incorporates the implementation of the Contra Costa Transportation Authority's (CCTA), Expenditure Plan passed by the voters in November 1988. This Element also assumes availability of the revenue generated by Regional Measure 1, the Propositions 108, 111 and 116 approved by the voters in June 1990. The Board of Supervisors designated the CCTA as the Congestion Management Agency for Contra Costa County. The County will meet the congestion management planning requirements through the planning process established by the CCTA.

A separate Scenic Routes Element was previously required as a mandatory General Plan component. However, state law now encourages the scenic routes' goals and policies be included within the Transportation and Circulation Element. Thus, this plan merges the scenic route discussion and policies into this Element. Biking, Hiking and Equestrian Trails Plans are included as part of the Recreation section of the Public Facilities/Services Element. It should be noted that some transportation related issues are included in other elements of the Contra Costa County

General Plan. Policies that address the impacts of vehicle emissions on air quality, for example, are found in the Open Space/Conservation Element. The Noise Element also addresses transportation issues by identifying the noise impacts of traffic in the County, based upon the Roadway Network Plan and the traffic volumes that are forecasted on key roadways.

The topic of oil and natural gas pipelines, often covered in Circulation Elements is discussed in the Safety Element.

5.3 RELATIONSHIP TO OTHER GENERAL PLAN DOCUMENTS

The goals, policies and implementation measures contained in this Element are intended to guide planning for public and private projects that are subject to either approval of the County planning agency, or to review by County staff, although they may be under the jurisdiction of other public agencies operating in the County. Such goals, policies and implementation measures are further intended to be in accordance with other elements of the General Plan, as well as with other planning documents, such as the *I-80 Strategic Transportation Study*.

The Transportation and Circulation Element is largely consistent with the Metropolitan Transportation Commission's 1988 Update of the Bay Area Regional Transportation Plan. Portions of the Contra Costa Commuterway (which includes high occupancy vehicle lanes for State Routes 4 and 242, and a busway along the Southern Pacific San Ramon Branchline north of Rudgear Road), and the Delta Expressway, are not included in the Regional Transportation Plan.

5.4 ORGANIZATION OF TRANSPORTATION AND CIRCULATION ELEMENT

This Transportation and Circulation Element addresses roadways, transit, bikeways, and transportation system management (TSM) programs, as well as air, rail, and water transportation facilities. The format of the Element is as follows:

- (1) An analysis of existing and future transportation needs, and a presentation of the computerized transportation modelling results that were conducted as part of this General Plan review program. Technical data are briefly summarized, with additional details made available in the Technical Appendix of this plan;
- (2) A presentation of introductory discussion and mapping (if appropriate), goals, policies and implementation programs for each of the following topics:

- o Roadways and transit
- o Transportation System Management
- o Bikeways
- o Scenic Routes
- o Airports and Heliports
- o Ports and Proprietary Wharves
- o Railroads

Note that the required discussion of terminals is provided as part of the treatment of Airports, heliports, ports, proprietary wharves, and railroads.

5.5 EXISTING AND FUTURE TRANSPORTATION NEEDS

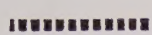
Travel conditions in Contra Costa County are greatly influenced by its location on the eastern side of the San Francisco Bay metropolitan region (see Figure 5-1). Bridges, freeways, and trains link Contra Costa to every part of the Bay Area. Commute patterns are especially affected by the employment centers in San Francisco and Alameda County, and the residential areas of Solano County. Over 18 percent of all trips and 46 percent of work trips originating in Contra Costa are destined for another Bay Area county.

Such intercounty travel patterns require that the Transportation and Circulation Element recognize the impacts of development outside Contra Costa County in addition to projected development inside the County. The Element accomplishes this task by incorporating projections of future population and employment activity in the remaining eight Bay Area counties for the year 2005. These projections were prepared by the Association of Bay Area Governments, and were combined with the Contra Costa data to estimate the influence of regional growth on the level and orientation of travel in the County. Estimates of inter-regional traffic, primarily from the Central Valley, were also included in the forecasts.

EXISTING NETWORK

The County's transportation system is comprised of an interconnected network of federal, state and county roads, regional transit systems, bikeways, elderly and handicapped transportation services (paratransit), as well as air, water and rail service, and pipelines. Pipelines are discussed in the Safety Element.

EXISTING TRANSPORTATION SYSTEM:

-  Freeway / Expressway
-  Other Highway
-  BART



 ALUC Planning Area

Figure 5-1 East Bay Regional Transportation System

Roadways

The County's roadway network includes Interstates 80, 580, and 680, State Routes 24 and 242, and portions of State Route 4. In addition, numerous locally maintained arterials, streets and roads make up the remaining network. Of special importance are the four bridges and three tunnels that link Contra Costa with the Bay Area Region. These include the Richmond-San Rafael Bridge, Carquinez Bridge, Benicia-Martinez Bridge, Antioch Bridge, and the Caldecott Tunnel.

BART

The Bay Area Rapid Transit (BART) is the primary form of public mass transit in Contra Costa County. BART is a regional transit operator with two train lines and eight stations serving the County and providing connections to Alameda and San Francisco Counties. The Richmond line has three Contra Costa stations with an average daily ridership of approximately 21,000 and the Concord line with five Contra Costa stations with an average daily ridership of approximately 52,000. BART supplements its service with express bus routes connecting outlying stations with areas of the County.

Bus

Bus service makes up the balance of the County's mass transit system. AC Transit serves portions of Western Contra Costa County with fixed bus service to Northern Alameda County and downtown San Francisco. The northwest portion of the County is served by the Western Contra Costa Transit Authority (WESTCAT), which operates demand-response dial-a-ride buses. Central Contra Costa County is served by fixed route buses operated by the Central Contra Costa Transit Authority (CCCTA), also called the County connection. The eastern end of the County is provided both fixed route and demand-response bus service by the Eastern Contra Costa Transit Authority (Tri-Delta).

Park and Ride

Park and Ride facilities have been established throughout the County to encourage the use of transit and high occupancy vehicles. BART maintains twelve park and ride lots providing over

11,800 free parking spaces for patrons of BART trains and express buses. The park and ride lots at BART stations operate at capacity and are considered a major constraint to increased ridership. Caltrans has established thirteen park and ride facilities in the County providing over 660 spaces, which are used primarily as staging areas for carpools and vanpools. The most widely used lot is at Rudgear Road, which is often filled to capacity.

Bikeways

County bikeways include both on-road and off-road facilities which are operated and maintained by the County, cities and the East Bay Regional Park District. For the nine-county Bay Area, bicycles account for 2.3 percent of all trips and 1.7 percent of all work trips. Bikeways in the County are currently dominated by recreational users and are not widely used for commute purposes. This plan proposes ways of increasing the use of bicycle travel as a component of the transportation plan.

Further discussion, as well as goals, policies and implementation measures, regarding bikeways are included in the "Parks and Recreation" section of the Public Facilities Services Element.

AMTRAK

AMTRAK operates five trains each day that provide intercity rail passenger service to Contra Costa County. These trains run along the Southern Pacific main line between Oakland and Martinez, crossing the Carquinez Strait to the Sacramento Valley, and a combination of Southern Pacific and Atchison Topeka & Santa Fe track from Martinez to the Central Valley and points south. Passenger stations are located in Antioch, Martinez, and Richmond.

Air, Water and Rail

Several air, water, and rail transportation systems and facilities are located within the county. A description and policies regarding Buchanan Field and the East County airports is found in the "Airports and Heliports" section. A similar description and relevant policies for water transportation facilities are included in the section "Ports and Proprietary Wharves", and rail related facilities and policies are described in the "Railroads" section.

EXISTING TRAVEL DEMAND

The most comprehensive and recent data on local travel was collected during the 1981 Metropolitan Transportation Commission (MTC) Travel Survey. The travel behavior of nearly 5,000 Bay Area households were surveyed. The survey found that Contra Costa households generate more trips than the average Bay Area household (9.8 trips/day vs. 8.7 trips/day, respectively). Contra Costa households are also more likely to use a car for their trips than other Bay Area households (8.1 in-vehicle trips/day vs. 6.8 in-vehicle trips/day, respectively).

To develop a more up-to-date estimate of travel demand in Contra Costa County, a computerized travel model was used. This model was developed in 1986 and 1987 for use in evaluating alternative transportation and land use scenarios for the General Plan. The model was validated to 1985 level traffic conditions, and then used as a means of forecasting year 2005 level traffic conditions for various scenarios.

Since the model was validated to year 1985 conditions, extensive information on estimated travel conditions are available for that year. This information has been updated, where possible, to reflect recently obtained information about 1990 conditions. A discussion of the 1990 estimates of travel behavior in Contra Costa County based on this information is provided below.

In 1990, it is estimated that over 1 million trips were made by Contra Costa County residents on an average weekday. The need for transportation facilities is most acute during commute travel periods, in both the morning and the evening. Of the daily commute trips generated in Contra Costa County in 1990, about one-quarter were work related. Of these trips, close to half were destined for work locations outside the County, with the most significant destinations in Alameda County and San Francisco.

Contra Costa County imported about 65,000 workers to fill jobs in the County in 1985, while exporting about 120,000 residents workers to fill jobs outside the County. An estimated 190,000 work trips were attracted to jobs in Contra Costa County each weekday in 1990. Approximately 68 percent of the work trips destined for the County were made by County residents, 16 percent by Alameda County residents, and 6 percent by Solano County residents. A considerable amount of the traffic that entered Contra Costa County during peak hours in 1990 was through traffic

going to jobs in other counties. For example, about one-half the traffic on I-80 and I-580 in Contra Costa County is estimated to be through traffic.

The result of these travel patterns is that considerable congestion occurs on the County's regional roadway system, as well as on many arterial streets in specific communities. Locations that act as bottlenecks on a regular basis include:

- o Much of I-80 through Contra Costa County, especially at the Carquinez Bridge and through Richmond;
- o Much of San Pablo Avenue in Contra Costa County;
- o State Route 24 at the Caldecott Tunnel, and on the approach to the I-680 interchange;
- o I-680 at the Benicia Bridge, at the junction with State Route 242, and through the State Route 24 interchange, and through San Ramon;
- o State Route 4 at the Willow Pass Grade;
- o Ygnacio Valley Road, through Walnut Creek and Concord;
- o Camino Pablo through Orinda.

FUTURE TRAVEL DEMAND

Travel demand forecasts were made for year 2005 using the computerized transportation model developed in 1990. Travel demand is primarily a function of the projected land-use in Contra Costa and neighboring counties. The General Plan is the basis for projected land use in Contra Costa. ABAG's projections for year 2005, described in *Projections 90*, is the basis for land use forecasts in neighboring counties. The ABAG data was adjusted to account for 163,000 surplus jobs that could not be matched to employed residents in the region. An assumption that 56,000 jobs would be matched with employees living in the Central Valley and south of Santa Clara County was incorporated into the transportation model. The remaining 107,000 surplus jobs were removed from the ABAG forecasts and were assumed to locate outside the Bay Area, or to occur after 2005.

An estimated 1.5 million person trips will be generated in Contra Costa County each weekday by year 2005. This represents a 35 percent increase above the 1985 level. Work trips, a primary factor in peak hour congestion, will increase by 46 percent to nearly 350,000 person trips per day.

The rapid increase in work trips reflects a greater number of workers per household anticipated in the demographic forecasts. The characteristics of the future transportation system will determine the routes and mode of travel for these future trips. These characteristics will be described in later sections of the Transportation and Circulation Element.

Since the model was developed, ABAG has updated its forecasts of Bay area population and employment characteristics. In addition, Contra Costa County has updated its land use projections for the General Plan. The main changes to the estimates used for travel projections are:

- o Addition of approximately 4,300 households in the Cypress Corridor in East County;
- o Inclusion of recently approved general plan amendment such as the Bethel Island General Plan Amendment (See Appendix K);
- o Addition of 2,000 employed people in East County;
- o Inclusion of updated list of pending General Plan Amendments (See Appendix L).

The results of these changes is an overall increase in trip making of 6.5 percent, from 1,460,000 trips per day to 1,552,000 trips per day. Work trips would increase by 6.4 percent, from 350,000 trips to 368,000 trips. Unless indicated otherwise, all discussion of 2005 model estimates are based on the earlier forecasts.

The impacts of truck traffic was incorporated into the road capacity assumptions at the critical locations of State Route 4 over the Willow Pass and Kirker Pass Roads.

FUNDAMENTAL CONCEPTS THAT SHAPE THIS ELEMENT

The projected increase in travel demand will require expanded transportation facilities and services, since existing facilities are strained to near capacity during rush hours. The need to provide greatly expanded facilities poses both environmental and financial problems.

The Transportation and Circulation Element can be used to guide, shape and control growth itself and should therefore relate to the issue of growth. However, it is only one component of a General Plan designed as a development, conservation and economic blueprint for the County. Roadway and transit improvements do not necessarily lead to uncontrolled growth. The Land Use

Element and Growth Management Element set the timing and densities of future growth. A well-planned and balanced transportation network provides for and accommodates anticipated employment and residential growth and helps to relieve existing congested roadways. A defined transportation network also gives public and private interests a vision of needed improvements and an opportunity to assess costs and develop funding programs well in advance of actual growth.

The following fundamental concepts have been recognized in developing this Transportation and Circulation Element:

- o Traffic flow is limited by the capacity of the system.
- o There are formidable limits to expansion and/or improvements to the system.
- o A desirable living environment and a prosperous business environment cannot be maintained if traffic levels continue to increase without limits. Various methods must be used to control and reshape the impact of automobiles on Contra Costa County and to use other means of transportation to improve the environment.
- o When traffic demand exceeds the capacity of the system, many negative effects result, including congestion, loss of time and productivity, accidents, personal frustration, increase in pollution, adverse community reaction; and use of residential streets for commuting purposes.
- o Contra Costa County, the Bay Area and California will continue to experience population growth over the next 20 years and transportation systems will continue to be strained.
- o Near-term solutions to conflicts between traffic demands and system capacity limits require utilizing existing roadways to the effective limits of their design capacity in order to relieve congestion.
- o Longer-term solutions require either significant enhancements to the system, fundamental changes in travel behavior patterns, or a combination of both.
- o Some of the specific approaches proposed in this Element for both near-term and longer-term solutions include the following:
 - Place limits on the capacity of streets and highways which enter the County (near-term)
 - Improve inter and intra-County transit service (longer-term)
 - Expand undersized roadways and plan for new roadways (longer-term)
 - Accept congestion until improvements occur (near-term)

- Improve the design of new development to provide alternative routes for circulation on the roadway system (near- and longer-term)
 - Improve the design of new development to allow convenient access to alternative forms of transportation
 - Encourage ride sharing and staggered work hour programs (near-term)
 - Construct HOV lanes and on-ramp metering lights along commute corridors (near-term).
- o Even with the investment of \$3.2 billion in transportation improvements over the life of this plan, the amount of growth in the region and the attractiveness of travel by private automobile will make desired level of service standards (LOS) unattainable along portions of County roadways.

5.6 ROADWAYS AND TRANSIT

INTRODUCTION

The need for roadway and transit facilities is most directly tied to the land use patterns set forth in the Land Use Element. As described above, buildout of the land use plan through the year 2005, together with anticipated growth outside of the county, would place excessive demands on the existing circulation infrastructure in the County. The goals, policies and implementation measures set forth in this section, together with those in the Growth Management Element, are intended to address the future circulation needs of Contra Costa County.

ROADWAY AND TRANSIT NETWORK PLANS

The Roadway and Transit Network Plans are the result of a coordinated planning process that incorporates the goals, policies and implementation measures of this Transportation and Circulation Element, in addition to the Land Use Element and Growth Management Element. As such, these network plans are a compromise between the ultimate transportation needs of the County, fiscal reality, and the potential development constraints imposed by the Growth Management Element.

The premise of the Roadway and Transit Network Plans is therefore best summarized as follows:

- o A roadway and transit network plan to accommodate travel demand that would result from assumed year 2005 buildout of the land use plan was developed. This plan, called the *Maximum Improvements Plan* would cost \$5.3 billion and cannot be fully funded with

present or anticipated funding sources. Only \$3.2 billion of the *Maximum Improvements Plan* can be funded, leaving a shortfall of \$2.1 billion.

- o A *Financially Constrained Plan* was then developed, to match the available funds.
- o The combination of the 2005 Land Use plan with a *Financially Constrained* transportation network, and the provision of the Growth Management Element, will have the effect of slowing growth in the County until additional transportation revenues are secured and more efficient commuting habits are adopted.

The Financially Constrained Roadway Network Plan is shown in Figure 5-2. The Financially Constrained Transit Network Plan is shown in Figure 5-3. A summary of the major projects in the financially constrained plans is shown in Table 5-1. Also contained in Table 5-1 are the major projects in the *Maximum Improvements Plan* that cannot be funded. A detailed list of all projects in these plans is provided in Appendix D.

ROADWAY DESIGNATIONS AND DESIGN CRITERIA

This section describes the classifications of roadways shown in the accompanying Roadway Network Plan. The purpose of the classifications is to define the Circulation Element's intent for the function and design of roadways specified in the Roadway Network Plan.

Freeways

Freeways are defined as controlled-access, high speed roadways designed to carry high volumes of intercity, intercounty, and interstate traffic, although they may carry considerable local traffic in urban areas. This class of facilities is devoted entirely to the task of traffic movement, and performs no direct land service function. The following design standards shall apply to freeways:

1. Opposing travel lanes shall be separated by a median.
2. Access shall not be permitted from abutting parcels.
3. Auxiliary lanes may be provided from one interchange to another in densely developed urban areas which have closely spaced interchanges or where substantial travel demand exists between two consecutive interchanges.

Expressways

Expressways are defined as controlled-access, moderate speed roadways serving intercity or intercounty trips. This class of facilities is devoted entirely to the task of traffic movement, and

Figure 5-2 Roadway Network Plan

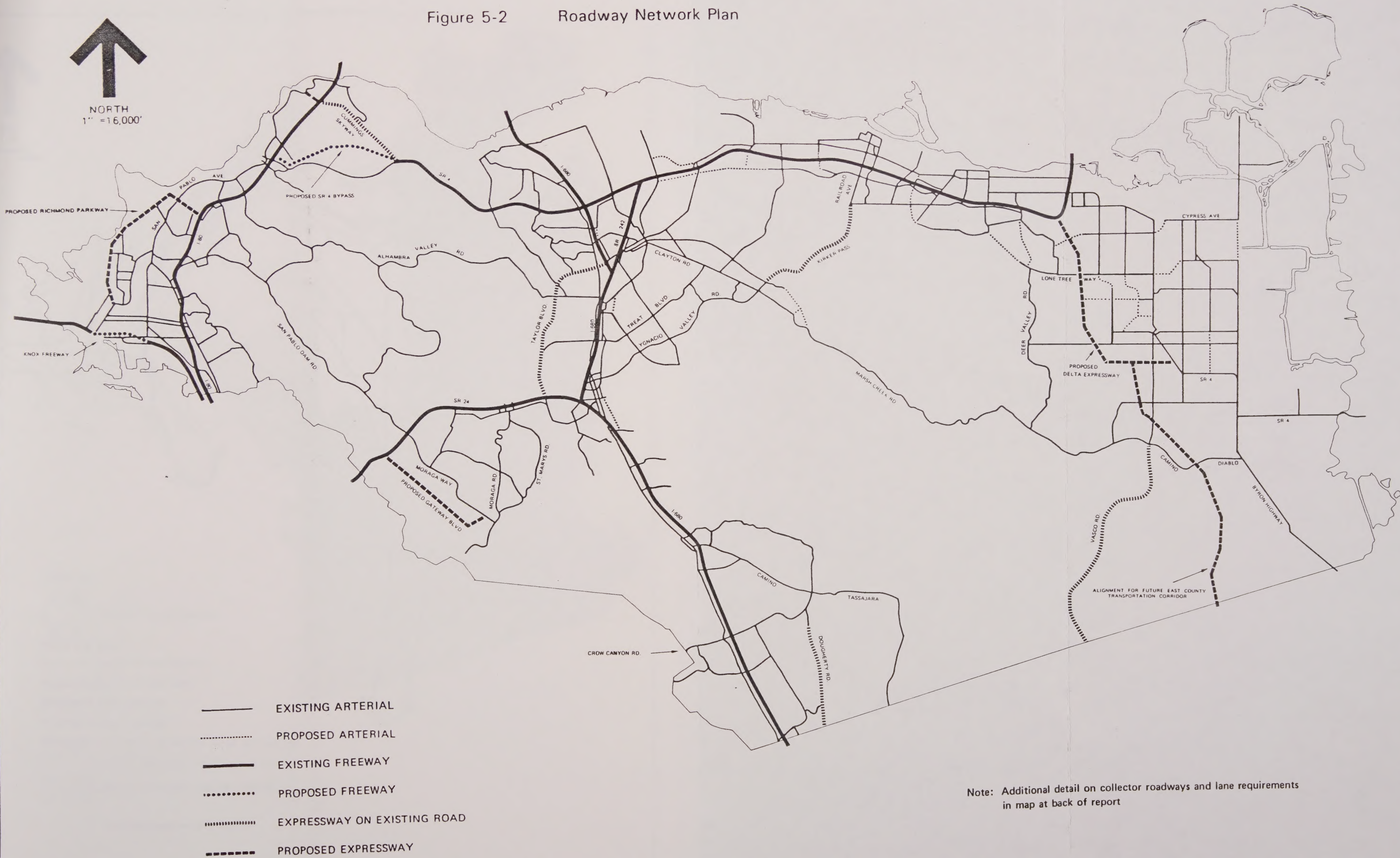
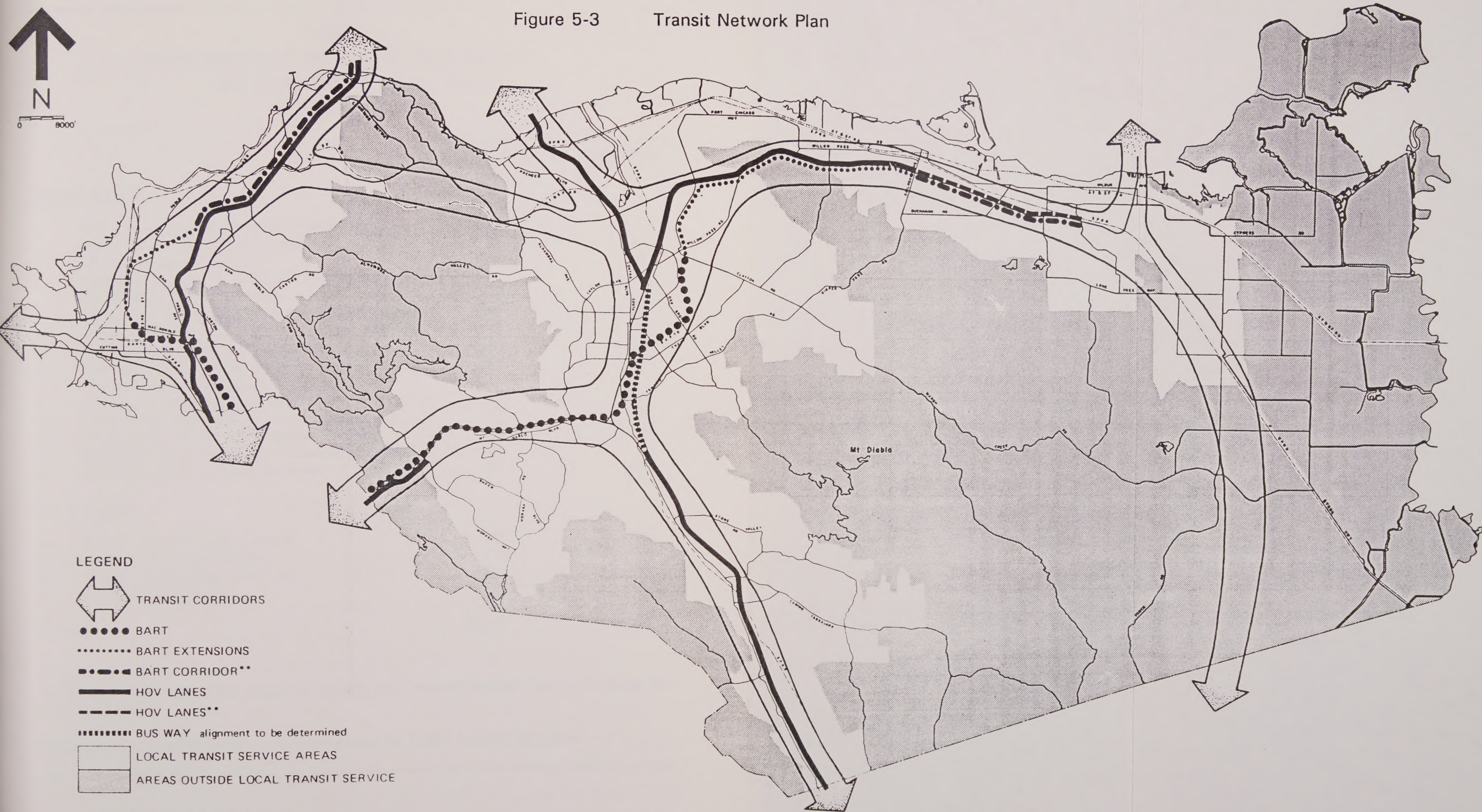


Figure 5-3 Transit Network Plan



**Not included in EIR analysis

TABLE 5-1
MAJOR ROADWAYS AND TRANSIT IMPROVEMENT -
COST IN MILLIONS (1990 DOLLARS)

	<u>Maximum Improvements</u>	<u>Financially Constrained</u>
<u>Roadway Projects</u>		
1. I-80: New Lanes; HOV Lanes, New Bridge	\$238	\$126
2. I-580: Knox Freeway, 6-Lane Freeway	62	62
3. SR 93: Richmond Parkway	206	206
4. I-680: New Lanes, SR 24 & SR 4 Interchanges HOV Lanes, Bridge Expansion	1,374	1,291
5. SR 4: New Lanes, HOV Lane, New Interchanges	680	282
6. Caldecott Tunnel: Carpool Bypass Lanes, 4th Bore	324	1
7. SR 242: Interchange Revisions, Carpool Lanes	39	32
8. Delta Expressway 4-Lane Freeway North of Balfour, 2-Lane Expressway South of Balfour	150	135
9. Gateway Boulevard, 2-Lane Expressway	21	21
10. Contra Costa Commuteway, HOV Lane/Busway	70	70
11. Route 84 (Vasco Road): Construct Freeway	180	0
12. Route 239 (Byron Highway): Construct Freeway	86	0
13. Other Surface Street Improvements	777	498
<u>Transit Projects</u>		
14. BART: Capacity Improvements	158	\$158 ¹
15. BART: Pittsburg Extension	574 ²	458
16. BART: Hilltop Mall Extension	297	297
17. Other Transit Projects	79	79
TOTAL	\$5,315	\$3,176

¹BART has programmed \$475 million for capacity improvements through the district during the next five years.

²Assumes freeway expansion to provide right-of-way for BART beyond Baily Road.

performs limited land service function. Intersections may be at grade. The following design standards shall apply to expressways:

1. Opposing travel lanes shall be separated by a median if there are two or more travel lanes in each direction.
2. Access shall not be permitted from abutting parcels; however, access may be allowed prior to improvement of roadway segments to expressways standards if there is no alternative access route to a parcel.
3. Intersections with median breaks shall occur only at arterials or other expressways.
4. Acceleration and deceleration lanes may be provided at intersections.

Arterials

Arterials move traffic to and from freeways, expressways or collectors and are part of an integrated system of major through roadways. Their traffic function is of county-wide or intercity importance, rather than serving primarily local area traffic. Arterials mainly serve to move traffic, but they normally also perform a secondary land service function.

1. Access from abutting parcels may be allowed but shall be secondary to protection of the traffic serving function of the roadway. Driveways and parking shall be restricted or may be prohibited altogether to improve capacity and safety.
2. Opposing travel lanes shall generally be separated by a median if there are two or more travel lanes in each direction.
3. Turning lanes and deceleration/acceleration lanes shall be provided at intersections with roadways designated as arterials or collectors, and are desirable at other intersections.
4. Rights-of-way at approaches to intersections with other arterials shall be sufficient to accommodate dual left-turn lanes.
5. Signalization shall generally give priority to through traffic on the arterial.

Collectors

Collectors are for internal traffic movement within a community, carrying traffic to arterials and between neighborhoods. They are low speed roadways that do not ordinarily carry a high proportion of through trips and are not, of necessity, continuous for great lengths. Collectors may also serve to provide access to property, especially in rural areas. Access from abutting parcels in residential areas shall be discouraged. Driveways and parking may be restricted.

Local Roads

Local Roads are low speed, low capacity roadways that provide circulation within neighborhoods and access to adjacent land. Street design standards and layouts are used to discourage through traffic movements, avoid high travel speeds and volumes, and minimize neighborhood noise and safety impacts. Curbside parking is usually allowable.

TRANSIT NETWORK CONCEPTS

The Transit Network Plan contemplates two different roles for public transportation: 1) provision of basic mobility for those individuals without access to automobiles or who are otherwise transit dependent; and 2) provision of an alternative means of travel for individuals with access to automobiles, especially peak-period commuters. The Transit Network Plan establishes local transit service areas; areas where development densities will warrant the provision of fixed-route transit service by 2005. Fixed-route transit operations are the primary means of serving the basic mobility needs for transit dependent individuals in urban areas of the County. The Plan assumes additional local bus service to BART stations, as well as the BART extension to Pittsburg and Antioch.

The Transit Network Plan establishes transit corridors along the county's freeways in order to provide high speed alternatives to driving alone on congested freeways. Within these corridors, the County will pursue the construction of rail transit extensions and high occupancy vehicle facilities, the establishment of express bus service, the integration of rail transit and bus service, and the promotion of carpools and vanpools. Existing and proposed studies will identify the feasibility of improving specific transit operations in the Transit Corridors. AC Transit is in the process of implementing a new Comprehensive Service Plan which would change the structure of fixed-route bus service in portions of western Contra Costa. Assembly Bill 1145 authorizes funding for a feasibility analysis of implementing urban and commuter rail service within the Transit Corridors. The I-80 and State Route 4 Transit Corridors are included in implementation plans under development by MTC and the State to increase intercity plans under development by MTC and the State to increase intercity train service for the Auburn/San Jose and Oakland/Central Valley/Los Angeles corridors. The toll bridge revenues designated for transportation alternatives in Regional Measure 1 warrants an examination of additional ferry operations between the East Bay and San Francisco.

Table 5-2 identifies areas where additional park and ride lot capacity will be needed to supplement parking at BART stations and to serve express bus routes and carpools/vanpools. It can be seen that an additional 9,400 park and ride spaces are expected to be needed in Contra Costa County by year 2005. Due to limited transportation improvements assumed in the I-80 and I-680 Corridors, and expected levels of growth in Solano County, almost 9,000 additional spaces in Solano County would be demanded for Solano County residents commuting to jobs south of the Carquinez Strait.

ROADWAY AND TRANSIT GOALS

The following goals relate to the roadway and transit plan for Contra Costa County:

- 5-A. To provide a safe, efficient and balanced transportation system.
- 5-B. To coordinate the provision of streets, roads, transit and trails with other jurisdictions.
- 5-C. To balance transportation and circulation needs with the desired character of the community.
- 5-D. To maintain and improve air quality standards.
- 5-E. To permit development only in locations of the County where appropriate traffic level of service standards are ensured.
- 5-F. To reduce cumulative regional traffic impacts of development through participation in cooperative, multi-jurisdictional planning processes and forums.
- 5-G. To provide access to new development while minimizing conflict between circulation facilities and land uses.
- 5-H. To ensure the mutual compatibility of major transportation facilities with adjacent land uses.
- 5-I. To encourage use of transit.
- 5-J. To reduce single-occupant auto commuting.
- 5-K. To provide basic mobility to all sectors of the public including the elderly, disabled, and transit dependent.

TABLE 5-2

YEAR 2005 DEMAND FOR ADDITIONAL PARK-AND-RIDE LOT SPACES¹

<u>Area</u>	<u>Spaces</u>
Brentwood	1,100
Oakley-Bethel Island	900
Antioch	1,500
Martinez	200
Ygnacio Valley	1,200
Alamo	600
Danville	1,700
San Ramon	1,100
Lafayette-Moraga	<u>1,100</u>
TOTAL	9,400

¹ This plan also projects the need for nearly 9,000 park-and-ride spaces in Solano County to serve residents with jobs south of the Carquinez Strait. It is assumed these spaces will be provided by others.

ROADWAY AND TRANSIT POLICIES

The following policies relate to the roads and transit system of Contra Costa County.

Circulation Phasing and Coordination

- 5-1. Cooperation between the cities and the County shall be strongly encouraged when defining level of service standards.
- 5-2. Appropriately planned circulation system components shall be provided to accommodate development compatible with policies identified in the Land Use Element.
- 5-3. Transportation facilities serving new urban development shall be linked to and compatible with existing and planned roads of adjoining areas, and such facilities shall use presently available public and semi-public rights of way where feasible.
- 5-4. Development shall be allowed only when transportation performance criteria are met and necessary facilities and/or programs are in place or committed to be developed within a specified period of time.
- 5-5. Right of way shall be preserved to meet requirements of the Circulation Element and to serve future urban areas indicated in the Land Use Element.

Encroachment of unsuitable land uses adjacent to abandoned railroad right-of-way shall be prevented where such uses conflict with future uses of the right-of-way identified in the Land Use and Transportation/Circulation Elements.

Circulation Safety, Convenience and Efficiency

- 5-6. Through-traffic along arterials shall be improved by minimizing the number of new intersecting streets and driveways; and, when feasible, by consolidating existing street and driveway intersections.
- 5-7. Direct frontage and access points on arterials and collectors shall be minimized.
- 5-8. Existing circulation facilities shall be improved and maintained by eliminating structural and geometric design deficiencies.
- 5-9. Development of a secondary road system of expressways shall be considered as part of the solution to congested freeways.
- 5-10. The use of freeways for community circulation shall be minimized by providing sufficient arterials and expressways.
- 5-11. The use of local and collector roadways for neighborhood circulation shall be encouraged.

- 5-12. Physical conflicts between vehicular traffic, bicyclists, and pedestrians shall be minimized.
- 5-13. Adequate lighting shall be provided for vehicular, pedestrian and bicyclist safety, consistent with neighborhood desires.
- 5-14. Curbs and sidewalks shall be provided in appropriate areas.
- 5-15. Emergency response vehicles shall be accommodated in development project design.
- 5-16. The design and the scheduling of improvements to arterials and collectors shall give priority to safety over other factors including capacity.
- 5-17. Efforts shall be made to increase short-term parking for retail uses in areas where it is currently inadequate.
- 5-18. New development (including redevelopment and rehabilitation projects) shall provide adequate off-street parking, or contribute funds and/or institute programs to reduce parking demand.
- 5-19. New subdivisions should be designed to permit convenient pedestrian access to bus transit and efficient bus circulation patterns.

Alternative Transportation/Circulation Systems

- 5-20. All efforts to use alternative transportation systems to reduce peak period traffic congestion shall be encouraged.
- 5-21. Use of alternative forms of transportation, especially transit, shall be encouraged in order to provide necessary services to transit-dependent persons and to help minimize automobile congestion and air pollution.
- 5-22. Improvement of public transit shall be encouraged to provide for increased use of local, commuter and intercity public transportation.
- 5-23. Rail transit extensions including protection and acquisition of necessary right-of-way and station areas, shall be encouraged along all freeway corridors.
- 5-24. Planning and provision for a system of safe and convenient pedestrian ways, bikeways and regional hiking trails shall be continued as a means of connecting community facilities, residential areas, and business districts, as well as points of interest outside the communities (Recognize there are multiple communities in County.) utilizing existing public and semi-public right-of-way.
- 5-25. Rail transit facilities or additional high occupancy vehicle lanes proposed within a designated transit corridor shall be considered consistent with this General Plan.
- 5-26. Support a study of the I-680 Freeway Corridor for fixed-route transit.

Environmental Considerations

- 5-27. New arterial roadways shall be routed around, rather than through neighborhoods, to minimize traffic impacts on residential areas.
- 5-28. Street systems shall be designed and/or modified to discourage additional through traffic in existing residential areas, but not at the expense of efficient bus transit.
- 5-29. Roads developed in hilly areas shall minimize disturbance of the slope and natural features of the land.
- 5-30. Local road dimensions shall complement the scale and appearance of adjoining properties.
- 5-31. Landscaping and maintenance of street medians and curb areas shall be provided where appropriate.
- 5-32. Appropriate buffers, such as soundwalls, bermed embankments, depressed alignments, and open space areas along major transportation facilities, shall be provided adjacent to noise sensitive land uses.
- 5-33. Consolidation of utility/drainage/transportation corridors shall be considered, where appropriate.

ROADWAY AND TRANSIT IMPLEMENTATION MEASURES

Circulation Phasing and Coordination

- 5-a. Promote uniform roadway cross-sections and traffic signalization standards between the County and the cities.
- 5-b. The County shall participate on committees with neighboring jurisdictions to monitor traffic congestion on regional corridors and to coordinate the planning, design, funding, and construction of transportation improvements serving unincorporated areas.
- 5-c. The County shall annually adopt a Five Year Capital Improvement Program to establish priorities for and schedule construction of transportation projects in unincorporated areas. The Capital Improvement Program shall contain projects to maintain desired Level-of-Service standards in unincorporated areas in accordance with the Growth Management Element and to accommodate development that has been approved for construction.
- 5-d. The County shall establish and maintain an Area of Benefit program to collect fees on new development for roadway and related transportation improvements specified in the Circulation Element. Fees shall be based on the traffic generated by a use and the costs of transportation improvements necessary to maintain acceptable Levels of Service with the cumulative amount of development authorized by adopted plans.
- 5-e. Establishment of assessment districts shall be encouraged to supplement or replace fees on new development.

- 5-f. The County shall work with the cities to establish regional funding mechanisms to fund regional transportation improvements and to attract state and federal highway and transit revenues. Funding mechanisms may include sales taxes, gas taxes, or fees on new development.
- 5-g. The County shall coordinate its transportation planning efforts with the Contra Costa Transportation Commission.
- 5-h. The County shall work with cities to develop Specific Plans for abandoned railroad right-of-ways that traverse unincorporated areas.
- 5-i. Establish precise alignments plans for new or expanded arterials, expressways and freeways in order to reserve adequate rights-of-way for ultimate road system improvements indicated on the Roadway Network Plan (e.g. Delta Expressway, SR 4, etc).

Circulation Safety, Convenience, and Efficiency

- 5-j. Design local streets so that the widths and curvatures fit the desired speed of travel.
- 5-k. Design a system of local and collector streets within a development to connect residences with arterials, activity centers and adjacent neighborhoods.
- 5-l. Reserve rights-of-way to ensure compatibility with transit service in the design of developments on appropriate freeway, expressway, arterial and collector routes.
- 5-m. Adopt design standards and right-of-way standards with typical sections showing relationships of pavement, median, sidewalks, lighting, and landscaping. Typical sections for roadways shall be based on the following minimum design standards:
 - (1) 12 feet per travel lane;
 - (2) 12 feet per turn lane;
 - (3) 8 feet per shoulder; and
 - (4) Add 4 feet per shoulder if bike lanes are to be provided where parking is allowed.

Alternative Transportation/Circulation Systems

- 5-n. Enforce County TSM (Transportation System Management) Ordinances 86-51 and 87-95, and encourage neighboring jurisdictions to adopt similar ordinances.
- 5-o. Construct a comprehensive program of park-and-ride lots, in cooperation with the cities, transit agencies, and Caltrans, to serve the demand forecasted by this Plan.
- 5-p. Coordinate efforts with BART to expand parking facilities at or near stations.
- 5-q. Encourage and coordinate efforts with BART to extend train service along State Route 4 to Brentwood and along I-80 to northwestern Contra Costa County.

- 5-r. In cooperation with interested local jurisdictions, regional agencies, and transit operators, conduct a study investigating the feasibility of implementing commuter rail, urban rail, and other regional transit services within the Transit Corridors identified in the Transit Network Plan.

Request MTC, in cooperation with affected local jurisdictions and transit operators, develop a comprehensive plan on the use of the three percent discretionary funds from Regional Measure 1, and include in the Plan a determination of the feasibility of additional ferry operations.

- 5-s. Coordinate efforts with BART, bus operators, and other jurisdictions to reserve rights-of-way, station sites, and other support facilities for rail extensions within the Transit Corridors identified in the Transit Network Plan.
- 5-t. Coordinate efforts with all transit districts serving the county to provide for improved routing, bus frequencies, facilities, and improved design of land development plans.
- 5-u. Expand transit service areas to serve all urbanized portions of the El Sobrante Valley.
- 5-v. Provide safe pedestrian ways in the vicinity of schools and other public facilities, and in commercial areas, and provide convenient access to bus routes.
- 5-w. Construct the bikeways shown in the future Bikeway Network Plan and incorporate the needs of bicyclists in major roadway construction projects and normal safety and operational improvements.
- 5-x. Develop a parking program to maximize traffic flow on new and existing arterials and collectors by reducing or eliminating on-street parking, by providing off-street parking or parking bays to accommodate on-street parking, or enhancing transit or ridesharing services.
- 5-y. Encourage Caltrans to investigate the feasibility and effectiveness of ramp metering on freeways in the county, and if feasible and effective, support implementation.
- 5-z. Encourage Caltrans to expedite the incorporation of Alameda, Contra Costa and Solano County into the Bay Area Traffic Control System Program to improve the flow of traffic on the region's freeways.
- 5-aa. Encourage Caltrans to construct a system of commuter lanes (high occupancy vehicle or HOV lanes) on new or expanded freeways within the Transit Corridors identified on the Transit Network Plan, and work with the cities and Caltrans in establishing additional commuter lanes on new or expanded expressways and regional arterials.
- 5-ab. Participate with the I-80 Reconstruction Advisory Committee to develop improvements to San Pablo Avenue as a reliever to I-80.

- 5-ac. Encourage Caltrans to construct the I-80 HOV facility for reversible operation, westbound for AM commute and eastbound for PM commute, and provide more opportunities for HOV access and egress along the facility.
- 5-ad. Support the establishment and operation of commuter transit services, serving the Transit Corridors identified on the Transit Network Plan, with emphasis on service to major employment centers and transit stations.
- 5-ae. Participate in studies and implementation efforts to improve intercity train service between Contra Costa County and other counties.
- 5-af. Develop a systematic program of interjurisdictional traffic operations improvements, such as signal coordination, low-cost geometric improvements, parking restrictions, etc.
- 5-ag. Strongly encourage Caltrans to utilize private sector engineering services to expedite State highway projects.
- 5-ah. Design and allow for on-road bikeways on arterials and collectors as an alternative to car travel where this can be safely accommodated.
- 5-ai. Cooperate with MTC in its effort to increase tolls on regional bridges serving the County to help pay for alternative transportation service.

5.7 TRANSPORTATION SYSTEM MANAGEMENT

Transportation System Management (TSM) is oriented towards encouraging efficient use of existing transportation facilities during peak periods of travel. TSM recognizes that large scale investments in highway and transit facilities are frequently limited by the availability of financial resources and adverse community reactions. TSM measures usually: 1) involve lower capital costs; 2) provide incentives designed to modify travel demand; 3) are implemented by local government or the private sector, and 4) give all travel modes equal consideration in providing access to development.

The County currently promotes TSM strategies in unincorporated areas through implementation of County TSM Ordinances 86-51 and 87-95. Even with these ordinances, and an investment of \$860 million in transit facilities, driving alone is likely to remain the choice of 90% of county residents who commute. Additional efforts to revise access requirements for new development are needed to help promote a more balanced transportation system. Specifically, these revisions should investigate: 1) establishment of maximum parking ratios; 2) shifting long-term parking in commercial areas to short-term use; 3) incorporating pedestrian, bicycle, and transit access into site plans.

5.8 BIKEWAYS

Bicycles are a viable mode of commuter transportation in the urban areas on either side of the Berkeley Hills and throughout eastern Contra Costa County due to favorable topography and weather. Development of a comprehensive bikeway system within these areas would provide further incentive to commute by bike. A comprehensive bikeway system is defined as a system of bike paths, bike lanes, and bike routes interconnected and spaced closely enough to satisfy the travel needs of most cyclists. Many existing bikeways are of a recreational design combined with pedestrian trails and located off-street. These facilities should be supplemented by on-street commuter bikeways that provide direct access to commercial uses.

"Bikeway" means all facilities that provide primarily for bicycle travel. The following categories of bikeways are defined in the California Streets and Highway Code.

- o Class I Bikeway (Bike Path or Bike Trail): Provides a completely separated right-of-way designated for the exclusive use of bicycles and pedestrians with crossflows by motorists minimized.
- o Class II Bikeway (Bike Lane): Provides a restricted right-of-way designated for the exclusive use or semi-exclusive use of bicycles with through travel by motor vehicles or pedestrians prohibited, but with vehicle parking and crossflows by pedestrians and motorists permitted.
- o Class III Bikeway (Bike Route): Provides a right-of-way designated by signs or permanent markings and shared with pedestrians or motorists.

In March 1990, the Board of Supervisors formed the Contra Costa Bikeway Plan Advisory Committee to develop a Countywide plan for the development of bikeways. The Committee approved a draft Countywide Bikeway Plan in October 1990. The goals of that plan appear below. The text, map, policies and implementation measures will be adopted as a separate implementing document of the County General Plan.

BIKEWAYS GOALS

- 5-L. Increase the opportunities for bicycle use in Contra Costa County for transportation as well as recreational purposes.
- 5-M. Develop a coordinated, interjurisdictional Countywide network of bikeways that connect residential areas with major employment, commercial, educational, transit and cultural centers.

- 5-N. Assure adequate long-term maintenance of the bikeway system.
- 5-O. Improve bicycle education for both bicyclists and automobile drivers and promote bicycles as a mode of transportation, particularly for commuting.
- 5-P. Provide secure bicycle parking facilities at appropriate locations and improved access to transit systems.
- 5-Q. Promote bikeway planning and coordination among cities, transit agencies and public utilities.

5.9 SCENIC ROUTES

INTRODUCTION

This scenic routes plan is intended to add considerations of roadway road corridor appearances and aesthetics to the scope of the County General Plan. This plan has two basic purposes: it enables the County to request that the State designate state routes to the State highways program, while at the same time providing a local scenic route implementation program.

Such a plan provides recognition of the perception we have of our surroundings while traveling through the County. Presently Contra Costa County has numerous roadways that pass through areas affording pleasurable views. The number of such roadways where scenic quality exists will diminish, however, unless protected. Their character is changed through improvements to them or when land adjacent to them is developed.

This plan will identify a Countywide scenic route system and ensure that new projects approved along a scenic route are reviewed to maintain their scenic potential. Most scenic routes depend on natural landscape qualities for their aesthetics and many formally designated scenic routes have been established in predominantly rural areas in the past, but neither natural beauty nor rural settings are necessary to the designation of scenic routes.

DEFINITION AND MAPS OF SCENIC ROUTES

For the purposes of this plan, the following definitions will apply; they should aid in understanding the relationship of the scenic roads to their environs.

A **scenic route** is a road, street, or freeway which traverses a scenic corridor of relatively high visual or cultural value. It consists of both the scenic corridor and the public right-of-way.

The **public right-of-way** includes the roadbed and adjacent lands in public control. It includes lands utilized for roadway protection, storm drainage, public utilities, pedestrian travel, and roadside plantings. Usually this land is owned in fee or dedicated to local jurisdictions or the State. It should also include cycling or hiking trails, roadside rests, or turnouts, etc. Public projects in the right-of-way should be designed and carried out recognizing the purpose of this plan.

Semi-public rights-of-way include railroads, canals, or power transmission lines.

A **scenic corridor** is usually much wider than the road right-of-way and extends to the contiguous areas beyond it. Width of scenic corridors will vary greatly depending upon the present degree of development, land forms, topography, and the nature of scenic quality. The scenic corridor consists of much of the adjacent area that can be seen from the road. It is within this area that development controls, dedication, and the purchase of easements or lands in fee simple will be required, and public projects will be reviewed for compliance with this plan. Controls should be applied to retain and enhance scenic qualities, restrict unsightly use of land, control height of structures, and provide site design and architectural guidance along the entire scenic corridor.

Route 24 from the Alameda County line to the Interstate 680 interchange, and Interstate 680 south of that interchange to the Alameda County line, are existing State designated scenic routes within the **State Scenic Routes program**. Route 4 from Hercules to the intersection with Railroad Avenue is proposed for State designation as is the proposed State Route 84 to the Delta.

While the State Scenic Routes plan forms the skeletal framework for the **County Scenic Routes program**, Figure 5-4 identifies the other roadways which form the Countywide scenic routes plan. Inclusion on this map provides direction to local staffs to review projects in a fashion which is compatible with the scenic qualities of these roads.

SCENIC ROUTES GOAL

5-R. To identify, preserve and enhance scenic routes in the County.



SCENIC ROUTES POLICIES

- 5-34. Scenic corridors shall be maintained with the intent of protecting attractive natural qualities adjacent to various roads throughout the county.
- 5-35. The planning of scenic corridors shall be coordinated with and maximize access to public parks, recreation areas, bike trails, cultural attractions, and other related public developments.
- 5-36. Scenic views observable from scenic routes shall be conserved, enhanced, and protected to the extent possible.
- 5-37. The existing system of scenic routes shall be enhanced to increase the enjoyment and opportunities for scenic pleasure driving to major recreational and cultural centers throughout this and adjacent counties.
- 5-38. Multiple recreation use, including trails, observation points, and picnicking spots, where appropriate, shall be encouraged along scenic routes.
- 5-39. Continued efforts shall be made in cooperation with the California Department of Transportation to achieve State scenic route recognition for appropriate routes in the County.
- 5-40. Design flexibility shall be encouraged as one of the governing elements for aesthetic purposes in the construction of roads within the scenic corridor.
- 5-41. For lands designated for urban use along scenic routes, planned unit developments shall be encouraged in covenant with land development projects.
- 5-42. Provide special protection for natural topographic features, aesthetic views, vistas, hills and prominent ridgelines at "gateway" sections of scenic routes. Such "gateways" are located at unique transition points in topography or land use, and serve as entrances to regions of the County.

SCENIC ROUTES IMPLEMENTATION MEASURES

- 5-aj. Develop and enforce guidelines for development along scenic routes to maintain the visual quality of those routes.
- 5-ak. Develop a corridor improvement program including an interagency joint action and ordinance development program, to protect and enhance scenic qualities.
- 5-al. Consider the visual qualities and character of the corridor in reviewing plans for new roads, road improvements, or other public projects. This should include width, alignment, grade, slope and curvatures of traffic islands and side paths, drainage facilities, additional setbacks, and landscaping.
- 5-am. Attain development project design flexibility within the scenic corridor through application of the Planned Unit Development District Zoning.

5.10 AIRPORTS AND HELIPORTS

INTRODUCTION

The county has one general aviation airport with a second one being funded for development. Additionally, there are several private airfields which operate in the county and requests for heliports have been received from time to time. This section adds policies to the County General Plan which guide the use of airports, private airfields and heliports.

The overall goals and policies for airport and heliport operations in the county are outlined in the next two sections. A more detailed description and policies for Buchanan Field and the East County airport are included in separate sections below. Finally, special policies required by the Airport Land Use Commission are included following the discussion of the two airports. The noise contours for these airports are included within the Noise Element of this Plan.

AIRPORTS AND HELIPORTS GOALS

- 5-S. To encourage the development and operation of two general purpose public airports in the county.
- 5-T. To allow heliports, restricted to appropriate locations, that would add to the economic well-being and safety of the county.

AIRPORTS AND HELIPORTS POLICIES

Overall Policies

- 5-43. Aesthetic design flexibility of development projects within a scenic corridor shall be encouraged.
- 5-44. Regulate the location of private airfields and heliports to minimize their impacts on adjacent residents, sensitive receptors, and to ensure public safety.
- 5-45. Protect the Byron Airport environs from urban encroachment through a combination of land acquisition, easement acquisitions and land use regulations.
- 5-46. Work with adjacent cities to ensure that Buchanan Field Airport environs are developed and redeveloped in ways which protect the public safety and maintain the viability of the airport.

- 5-47. Work with the FAA and helicopter operators to minimize conflicts with residential areas and sensitive land uses, such as schools, hospitals, residences, and other sensitive noise receptors.

Policies Regarding Buchanan Field

Buchanan Field is located on a 578 acre site in the unincorporated area of Contra Costa County adjacent to the cities of Concord and Pleasant Hill; a very small portion of airport property is located within Concord. It is a general use airport and has limited scheduled commuter airline service.

The land use plan designations for this airport are shown on the Land Use Element map. Land uses allowed on the airport property should enhance the airport function and be consistent with its goals and operational requirements. Most of the site is designated "Public/Semi-Public" to reflect the airport use. The County has a certified EIR for *Buchanan Airport General Plan Amendment and Related Projects* (1989). The Board has not completed efforts at adopting this project. This is now in negotiation.

Special policies of this plan that apply to Buchanan Field are as follows:

- 5-48. The Transportation and Circulation Element requires the construction of the Diamond Boulevard extension from Concord Avenue northerly to Center Avenue as a condition of approval of development projects on the western side of the airport to major new uses.
- 5-49. The Buchanan Field Golf Course exists on the southwest edge of the airport adjacent to the intersection of Concord Avenue and I-680. The road improvements called for by this plan, and in particular the Diamond Boulevard extension, will require modification to the existing golf course. This plan encourages the maintenance of a small golf course or some other recreation facility in the location of the golf course.

Passive recreational uses are appropriate in the approach path of the airport and will constitute an environmental enhancement and balance to serve as amenities for the development at the airport. Some maintenance responsibilities for these recreational facilities may be required of the airport projects.

- 5-50. Trail connections surrounding the airport are required. A riding, hiking and bicycle trail is shown along the Walnut Creek Flood Control Channel. Hiking and bicycle trails are shown flanking the airport on its remaining perimeter. These trails will serve as an amenity to the new office facilities in the area, as well as providing a connection to a regional trail linkage along the Walnut Creek Channel.

East Contra Costa County Airport

The County is in the process of developing a new full-service general aviation airport at a site adjacent to the existing Byron Airpark. The project location is approximately three miles south of the town of Byron and 2½ miles north of the Alameda County line. The Byron Highway passes one mile to the northeast. Long range plans call for construction of a runway capable of serving 250,000 operations annually, and construction of parking to accommodate 250 aircraft.

The airport acquisition and development will be jointly funded by the County, the State and Federal Governments. The airport boundaries will encompass approximately 1,270 acres of which only 230 acres will be developed for airport purposes. In addition to the land to be acquired in fee, an additional 2,000 acres of conservation easements will be acquired to preclude additional residential development and to control noise, height of structures, etc. In addition, aviation easements within two miles of the airport will also be acquired, later if needed, to assist in controlling development.

The expressed intent of the County is to open a second airport free from urban encroachment, and to prevent the establishment of related commercial or industrial development around the planned airport. Water and sewer services will be limited to serve only the airport; utilities will not serve growth on the adjacent properties. It is also for this reason that extra rights-of-way beyond the airport development proper are being acquired. Additionally, no residential development or sensitive receptors, e.g. hospitals, schools, etc., should be allowed within the projected 60 CNEL noise contours for the new airport. (For information only, Measure C - 1990 provides that one of the enumerated bases for changing the Urban Limit Line, upon a 4/5 vote, substantial evidence and public hearing, would be the following finding: (f) an objective study has determined that a change to the Urban Limit Line is necessary or desirable to further the economic viability of the East Contra Costa County Airport, and either (i) mitigate adverse aviation related environmental or community impacts attributable to Buchanan Field, or (ii) further the County's aviation related needs.)

Special policies of this plan that apply to the East County Airport are as follows:

- 5-51. The County shall acquire fee title and/or conservation (development rights) easements to an appropriate amount of buffer land around the planned East County Airport.

- 5-52. The buffer land or conservation easements acquired around the airport shall ensure that incompatible uses will not be allowed to locate within the safety zone.
- 5-53. Establishment of commercial, industrial or residential development around the planned airport shall not be allowed.
- 5-54. Water and sewer services to the airport will be limited to serve only the airport properties; utilities will not serve growth on the adjacent properties.
- 5-55. No residential development or sensitive receptors, e.g. hospitals, schools, etc., shall be allowed within the projected 60 CNEL noise contours for the new airport.

Special Policies Regarding the Airport Land Use Commission

The Public Utilities Code requires that the intent and purpose of adopted Airport Land Use Commission (ALUC) plans and policies be incorporated into the County General Plan. The following policies apply to the two County airports:

- 5-56. Structural heights shall be designated by the Federal Aviation Regulations (FAR) Part 77 surfaces associated with the various runway designations shown on the latest Airport Layout Plan.
- 5-57. The Structural Height Limits defines maximum structural height. Height limits will be placed on new buildings, appurtenances to buildings, all other structures and landscaping in accordance with the Airport Layout Plan except in special instances when for reasons of safety the Commission may impose a more restrictive structural height.

An applicant for any structure within the Airport Land Use Commission Planning Area proposed to penetrate any height limit surface shall submit an aeronautical analysis which specifies the proposed project's effect on airport instrument procedures for all runways, the effect on airport utility, and the effect on overall aviation safety. If, after reviewing the aeronautical study and other related information, it is determined that the proposed project would not have an adverse effect on safety and airport utility then, the project may be approved for heights other than those indicated by the FAR, Part 77, Structural Height Limits.

- 5-58. All projects involving new construction or a building exterior alteration which would increase building height within the Airport Land Use Commission Planning Area and which would exceed the height limits of the structural heights limits plan, which are over two stories in height and within 3,000 feet of the side or end of any runway, or which are within the 60 dBA CNEL noise contour, or which are within the safety zone areas shall be submitted to the Commission for review. Projects which require approval or permit shall be submitted to the Airport Land Use Commission.

- 5-59. New construction or building exterior alterations located in areas of terrain penetration as defined by the ALUC Structural Height Limits Plan will be reviewed on a case by case basis with consideration given to topography, flight patterns, existing vegetation and any other factors which might affect airspace and safety. Maximum building height, including all appurtenances, shall be no greater than 45 feet above maximum ground elevation at the site.
- 5-60. Temporary structures, such as construction cranes or antennae, which would penetrate any adopted height limit surface, may be allowed after a case by case review, provided that obstruction lighting and marking is installed and a two week notice of temporary structure emplacement is provided by the proponent to the County Manager of Airports. Temporary structure emplacement shall be subject to reasonable time limit.
- 5-61. The County may require an exterior building materials reflectivity analysis upon review of the proposed types of building materials, building height, and building location and use on site. Such analyses should be required for development of any structures on or adjacent to public airports which would be over three stories in height and utilize reflective surfaces. Reflectivity studies shall address the potential for pilot and airport operation interference, proposed mitigation to any identified potential interference resulting from reflected sunlight, and any other subject areas related to reflectivity which the County may deem appropriate. The County may include some or all of the proposed mitigation in its project approval process.
- 5-62. Within each safety zone designated by the ALUC, the following are incompatible uses (The ALUC Safety Element Map for Buchanan Field Airport is shown on Figure 5-5.):
- (1) Any light source which would direct a steady light or flashing light of red, white, green, or amber color associated with airport operations toward an aircraft engaged in an initial straight climb following takeoff or toward an aircraft engaged in a straight final approach toward a landing at an airport, other than an FAA approved facility.
 - (2) Any construction which would cause sunlight to be reflected toward an aircraft engaged in an initial straight climb following takeoff or toward an aircraft engaged in a straight final approach toward a landing at the airport.
 - (3) Any use which would generate smoke, attract large concentrations of birds, or may otherwise adversely affect safe air navigation within a safety zone.
 - (4) Any use which would generate electrical interference that would be detrimental to the operation of aircraft and/or aircraft instrumentation.
 - (5) Any use which would utilize or cause to be stored highly toxic, inflammable or otherwise hazardous materials which, in the event of an aircraft accident, could be released into the surrounding environment to threaten human life or property.
 - (6) Within the safety zone clear area, any use which involves the erection of a permanent above ground structure other than FAA approved facilities.

LEGEND

- Safety Zones
- Clear Areas

5-41

- (7) Within the safety zones, excluding the clear areas, any use which on a regular basis would result in a density (excluding streets) in excess of 30 persons per acre or one person/500 square feet of gross building floor area, whichever is less.
- (8) Any of the following uses: new single and multiple family residences, shopping centers, restaurants, schools, hospitals, arenas and other places of public assembly.

5-63. The following are suggested uses within the safety zones (excluding the clear areas) for Buchanan Field:

- (1) agriculture;
- (2) open space;
- (3) warehousing;
- (4) light industry;
- (5) parking of automobiles; and
- (6) low occupant density public uses, such as sewage treatment plants.

5-64. The following are suggested uses within the safety zones (excluding the clear areas) for the East Contra Costa Airport:

- (1) agriculture;
- (2) open space;
- (3) low intensity park and recreation uses;
- (4) low occupant density public uses; and
- (5) parking of automobiles.

5-65. Airports and heliports may be allowed by issuance of a land use permit in zoning districts found by the Board of Supervisors to be suitable for such uses.

AIRPORTS AND HELIPORTS IMPLEMENTATION MEASURES

- 5-an. Create a new zoning district for County airports similar to the Planned Unit (P-1) District zone which provides for public review of on-site projects, and rezone both airports to that district.
- 5-ao. Review county ordinance code provisions and consider the suitability of each zoning district for the establishment of airports and heliports.
- 5-ap. Continue to regulate all heliports in the county by the land use permit process.
- 5-aq. Create a new zoning district to regulate private land use on the two public airports.
- 5-ar. Undertake hearing to rescind the "Airport Zoning Plan for Buchanan Field" adopted in 1955, and to approve preparation of an updated structural height limit plan.
- 5-as. The County shall adopt structural height limit zoning on a permanent basis for the East County airport. The purpose of the zoning is to protect the airspace near the airport for the planned airport operations.

- 5-at. The subdivision ordinance should be amended to require the following actions prior to recording a final map for the ALUC Planning Area:
 - a. Dedication of suitable aviation and noise easements for the area of the particular subdivision;
 - b. Require the developer to record a covenant or provide other appropriate instruments to notify prospective buyers of lots that the property may be subject to frequent overflight and associated noise impacts.
- 5-au. The General Plan supports preparation, adoption and implementation of a "state-of-the-art" comprehensive land use plan (CLUP) for the East County Airport. The Plan should address public safety, protection of airport airspace and noise/overflight compatibility. The Plan should be formulated under the auspices of the Airport Land Use Commission pursuant to State law. The CLUP should be completed prior to approving any general plan revision to permit nonagricultural open space uses near the airport.
- 5-av. Any project in an area near the Buchanan Field airport with a designated noise level of 60 dBA CNEL or greater as shown on the Projected Noise Levels Map shall be required to attach a statement to any deed, lease, rental agreement, or Covenants, Conditions and Restrictions document pertaining to the use of the property. The statement shall indicate that the property is subject to aircraft overflight, and associated noise impacts.
- 5-aw. An acoustical study shall be required for any discretionary residential project which the County will consider which is within the area designated on the Projected Noise Levels map to exceed 60 dBA level. The study should be submitted prior to accepting the application as complete and shall be by a certified noise acoustical firm.

5.11 PORTS AND PROPRIETARY WHARVES

INTRODUCTION

Contra Costa has historically been oriented to its waterfront, since the western end of the county is located on San Francisco and San Pablo Bays, and the northern shoreline fronts along the Carquinez Strait, Suisun Bay and the Sacramento San Joaquin River Delta. Industrial development in the county was concentrated along the shoreline, and this legacy remains today with port-oriented heavy industrial uses located in scattered locations from Richmond to Antioch. These industrial uses are important to the county economic base and the continued use of appropriate shoreline areas for heavy industries that rely on water traffic should be protected.

There is one major deep water port in the county, the Port of Richmond, located in that city. In addition, there are several private ports or proprietary wharves, which serve large petroleum refineries and other industrial firms.

PORTS AND PROPRIETARY WHARVES GOALS

- 5-U. To maintain the economic viability of the county's existing ports, wharves, and shipping lanes.

PORTS AND PROPRIETARY WHARVES POLICIES

- 5-66. The continued use of existing ports and proprietary wharves shall be recognized and encouraged.
- 5-67. Water-oriented industrial uses which require deep water access shall be encouraged along the shoreline, while other industrial uses which could be located on inland sites shall be discouraged.
- 5-68. New or replacement proprietary wharfs shall be allowed adjacent to industrial use areas, as long as environmental safeguards are followed and public access to the shoreline is provided.
- 5-69. The County shall advocate maintenance of deep water channels at a depth that keeps ocean vessel use viable from San Francisco to the Concord Naval Weapons Station.
- 5-70. The Concord Naval Weapons Station deep water port should be utilized for private port use if the property ever becomes excess government property.

PORTS AND PROPRIETARY WHARVES IMPLEMENTATION MEASURES

- 5-ax. The County shall continue to work with the Bay Conservation Development Commission, the State Lands Commission, and other appropriate agencies to ensure adequate deep water access is provided to industries along the county's shoreline.
- 5-ay. The deep water site at Selby should be reserved for a water-related industrial use.

5.12 RAILROADS

INTRODUCTION

There are four railroad lines which currently carry freight within Contra Costa County. The Southern Pacific railroad line, now owned by the Denver and Rio Grande Western, stretches 60 miles from Richmond to the Alameda County line near Clifton Court Forebay. The SP line is a high speed double track between Richmond and Martinez, and carries by far the most freight traffic of all the railroad corridors in the County. From Martinez, the SP track splits, with one track crossing the river to carry freight up the Sacramento Valley to the northwestern U.S., and one

track continuing through Antioch, Brentwood, Byron and into the San Joaquin Valley and points south.

The 55-mile long Atchison, Topeka and Santa Fe (ATSF) railroad corridor roughly parallels the SP line between Richmond and Hercules, where it then turns inland through rural Franklin Canyon running south of Route 4 to the industrial areas east of Martinez. From there it again closely parallels the SP (and Sacramento Northern/Union Pacific) tracks as it passes through Pittsburg and Antioch, and then through Oakley and across the Delta to Stockton. Five daily AMTRAK passenger trains operate on the SP tracks between Richmond and Pittsburg, and on the ATSF tracks between Pittsburg and the San Joaquin County line.

Two smaller freight lines operate in the County. Union Pacific controls the subsidiary Sacramento Northern line from Clyde to Pittsburg, and the Bay Point and Clayton rail line serves the Concord Naval Weapons Station. The other major railroad corridor in the county, the SP tracks running north-south between Concord and through the San Ramon Valley to the Alameda County line, was abandoned in the 1960s and has been largely acquired by the County.

All these lines are directly involved with the economic vitality of the County, since numerous industries depend on the rail movement of heavy goods such as oil and chemical products, coal, lumber, and automobiles, as well as containerized cargo. The importance of railroad lines is further increased by the growing ridership of intercity passenger trains serving the County, and future plans for urban, commuter, and intercity rail passenger service to provide alternatives to the region's freeway congestion. It is possible, however, that all or portions of these rail lines may be declared unprofitable by their parent companies in the future. As such, a formal petition may be filed with the Interstate Commerce Commission asking permission to abandon the corridors and sell them. This plan, thus, needs to consider alternative land uses for the corridors in the event of any abandonment.

RAILROADS GOALS

- 5-V. To protect the existing railroad rights-of-way in the county for continued railroad use, utility corridors, roads, transit facilities, trails and other public purposes.

RAILROADS POLICIES

- 5-71. Railroad rights-of-way shall generally be designated for Public/ Semi-Public uses to reflect their importance to the County's economy.
- 5-72. Encroachments into railroad rights-of-way by urban uses which would impact current rail operations or preclude future use of the corridors for trails or other public purposes shall be limited.
- 5-73. Trails shall be considered an appropriate interim use of an abandoned railroad right-of-way.
- 5-74. Encroachment of unsuitable land uses adjacent to abandoned railroad right-of-way shall be prevented where such uses would conflict with future uses of the right-of-way identified in the Land Use, and Transportation and Circulation Elements.
- 5-75. The Southern Pacific right of way south of Rudgear Road should be limited to utility and non-motorized transportation use only.

RAILROADS IMPLEMENTATION MEASURES

- 5-az. Implement County Ordinance #87-19, entitled "Railroad Corridor Combining District", in a fashion which protects the integrity of the existing corridors.
- 5-ba. If railroad right-of-ways are abandoned by railroad service, work toward acquisition of the right-of-ways for trail development, utilities corridors, transit and for other public purposes.
- 5-bb. If railroad uses are to be abandoned, initiate a general plan revision study to determine the best long term use of the right-of-ways.
- 5-bc. Upon notification of an action to abandon a rail line, initiate a committee of affected jurisdictions to help determine the long term use of the rail corridor.

6. HOUSING ELEMENT

TABLE OF CONTENTS

	<u>Page</u>
6.1 INTRODUCTION	6-1
Purpose	6-1
Relationship to Other General Plan Elements	6-1
Organization	6-2
Authority and Development of Housing Element	6-3
Preparation, Review and Public Participation	6-4
6.2 EVALUATION OF THE COUNTY'S 1985 HOUSING ELEMENT	6-5
1985 Housing Element Goals, Policies, Programs, and Objectives	6-5
1985 Housing Needs	6-5
Implementation of the 1985 Housing Element	6-5
6.3 EXISTING AND PROJECTED HOUSING NEEDS, 1988 TO 1995	6-20
6.4 CONTRA COSTA COUNTY HOUSING MARKET	6-26
6.5 SPECIAL HOUSING NEEDS	6-27
Very Low and Low Income Households	6-27
Elderly	6-38
Disabled Populations	6-40
Large Families	6-43
Female Headed Households	6-44
Farmworkers	6-45
6.6 HOMELESSNESS	6-46
Homeless Populations	6-46
Causes of Homelessness	6-51
Comprehensive Solutions to Homelessness	6-53
Sites for Homeless Facilities	6-61
6.7 LAND INVENTORY	6-65
6.8 HOUSING CONSTRAINTS AND CONCERNS	6-65
Governmental Housing Constraints	6-85
Non-Governmental Housing Constraints	6-95
6.9 ENERGY CONSERVATION IN RESIDENTIAL DEVELOPMENT	6-103

6.10	GOALS, POLICIES AND IMPLEMENTATION MEASURES	6-105
	Goals	6-105
	Policies	6-106
	Implementation Measures	6-108
6.11	HOUSING PROGRAM	6-117

6. HOUSING ELEMENT

6.1 INTRODUCTION

PURPOSE

This chapter of the Contra Costa County General Plan presents goals, policies and other information related to the provision of housing for existing and future residents of the County. The purpose of the Housing Element is twofold: 1) to present specific policies and actions for housing provision, based on the premises and policies of the residential land use component of the County General Plan's Land Use Element; and 2) to provide an adopted County housing plan that will help the County and its political subdivisions to qualify for housing aids and grants.

RELATIONSHIP TO OTHER GENERAL PLAN ELEMENTS

State law contains requirements for Housing Element content that are far more specific than the requirements for other elements of the General Plan. The Housing Element is also unique in that it is the only element which is required to be updated at least every five years.

Contra Costa County adopted a Housing Element in 1985, which was certified by the State Department of Housing and Community Development. State law requires housing elements to be updated every five years (1990) to demonstrate progress in implementing housing policies from 1985 to 1990 and to establish new housing policies and implementation measures for the next five-year period (1990 to 1995). This Housing Element was therefore prepared in 1990 in order to comply with State law requirements. The Housing Element will also incorporate significant new housing market and housing needs data, and incorporate new requirements under State law.

Under State law, the Housing Element must be consistent with other elements of the General Plan. The Housing Element has been developed to be consistent with the other elements of the General Plan, both in format and content.

The Housing Element is specifically intended to set forth and expand upon County policies for residential land uses as defined and described in the Land Use Element of the General Plan. By designating the locations and characteristics of residential areas, and by serving as the basis for land development regulations, the Land Use Element is the central component of the General Plan for relating housing to other General Plan subjects. The following is a very general identification of these relationships.

Residential areas are located according to conditions evaluated in the Open Space/Conservation, Safety and other elements, and will be affected in the future by the ULL. They are further located according to relationships with employment areas, major recreation facilities, and major roads and utilities covered in the Public Facilities/Services; Transportation and Circulation; Land Use; and other elements. The internal design and physical characteristics of residential areas are influenced by building density policies of the Land Use Element; by street patterns reflected in and anticipated by the Transportation and Circulation Element; by Noise Element requirements; and by parks and open spaces addressed in the Public Facilities/Services and Open Space/Conservation Elements, respectively. Moreover, the timing of residential development will be influenced by the ability to satisfy Growth Management Performance Standards.

The General Plan affects housing not only through natural resource and physical design considerations, but also through population (social) characteristics and distributions inherent in the policies of the Land Use Element. Land Use Element policies also address the provision of jobs and local economic development potential. Public services are addressed in several elements, as well as in the studies upon which the elements are based and the public programs that implement the elements.

ORGANIZATION

This chapter provides a summary of information regarding the County's housing market and housing needs, followed by a statement of the County's goals, policies, implementation measures, quantified

objectives, and scheduled programs, as they relate to housing. Two appendices provide the bulk of the background data: an analysis of Contra Costa County's housing market, Appendix A, Housing Market Analysis; and Appendix B, Summary of Federal and State Housing Programs. These three sections constitute the County's Housing Element.

AUTHORITY AND DEVELOPMENT OF HOUSING ELEMENT

In 1967, the California Legislature mandated that cities and counties include housing elements in their general plans. The State guidelines of the time envisioned a two-stage process for developing comprehensive housing elements. Accordingly, Contra Costa County adopted its Preliminary Housing Element in 1970 as its first housing element. The next step was the compilation of housing data and housing program information. In 1977, the Planning Department published a Housing Element Background Report that reflected the County's 1975 Special Census and the State's 1977 Housing Element Guidelines. The background report, in turn, was used by the Planning Department and a special Housing Element Advisory Committee to draft an element document for review and consideration in the adoption process. In December 1980, the Board of Supervisors, after numerous public hearings before the Board itself and the Planning Commissions, adopted a County Housing Element as required by the 1977 State Guidelines. In 1980, responding to controversy over the 1977 State Guidelines, the State legislature enacted the California Housing Element Law (Commencing with Section 65580 of the California Government Code). Concurrent with the adoption of the State Housing Element Law was the 1980 Federal Census. The 1980 Census provided new insights into the housing needs that were incorporated into the 1985 Housing Element, along with an analysis of homeless needs required under 1985 State legislation.

Subsequent legislation set forth new requirements for the 1990 Housing Element. A 1985 amendment to State law required localities to identify sites or zones for emergency shelters and transitional housing. Other direction from the State Attorney General's Office in 1987 required that adoption of alternative zoning ordinances and land use restrictions be considered if necessary to meet a locality's fair share of regional housing needs. A 1985 California Court of Appeal case established a new standard for actual versus substantive compliance with the requirements for Housing Elements in the Government Code.

More recent 1989 legislation requires Housing Elements to include by January 1, 1992 additional needs analyses and programs regarding existing low-income housing units, with affordability restrictions through federal, State or local programs, which could convert to market rates.

The requirements of Government Code Section 65583 state that the Housing Element shall consist of an identification and analysis of existing and projected housing needs; and a statement of goals, policies, quantified objectives, and scheduled programs for the preservation, improvement, and development of housing. The Housing Element shall identify adequate sites for housing, including rental housing, factory-built housing and mobile homes, and shall make adequate provision for the existing and projected needs of all economic segments of the community.

The legislation goes on to define the contents of a local community's housing needs assessment. It requires communities to establish goals, objectives and policies related to housing maintenance, improvement and development, and to adopt a five-year housing action program. The legislation also sets forth a procedure for periodic revision and updating of the Housing Element.

PREPARATION, REVIEW, AND PUBLIC PARTICIPATION

This Housing Element has been updated by County staff, incorporating new data and reflecting new policies proposed by members of the community representing the real estate industry; developers; lenders; the business community; homeowner associations; other localities; service and shelter providers; and advocacy groups for low income, disabled, senior, homeless, and ethnic populations. The updating of the County General Plan, including the Housing Element, was done in conjunction with a 67-member Planning Congress. The Planning Congress held over 100 meetings in the process of developing a recommended update to the County General Plan. This process was closely covered by the media within the County. In addition, notices of the Congress meetings were mailed to over 50 organizations. Prior to formal consideration of the Housing Element before the Planning Commission, a direct notice was provided to over 100 parties who had expressed interest in the County Housing Policy and programs. These revisions include recommendations in an April 1989 report entitled Long Term Affordable Housing Solutions to Homelessness developed by the Community Homeless Action and Resource Team, and accepted by the Board of Supervisors. The Public Review Draft is available for public review. Public workshops are being held to provide interested people and organizations with an opportunity to inform themselves on

the content and requirements for Housing Elements. Public hearings before the County Planning Commission and the Board of Supervisors will follow to provide ample opportunities for public input before the Board of Supervisors adopts the Element.

In view of the dynamic nature of the housing planning process, the County will continually evaluate new programs for their appropriateness and effectiveness in meeting housing goals. The evaluation of the housing program should be conducted on an annual basis coinciding with the preparation of the Housing Assistance Plan and cover the following:

1. Evaluation of the housing program and its effectiveness in accomplishing stated goals;
2. Programs and plans undertaken since the previous update; and
3. Programs and plans discontinued since the previous update.

In addition to the annual review process, the State Housing Element law indicates that the Housing Elements should be revised and a printed update prepared at least every five years. The next scheduled update would be accomplished on or before July 1, 1995.

6.2 EVALUATION OF THE COUNTY'S 1985 HOUSING ELEMENT

1985 HOUSING ELEMENT GOALS, POLICIES, PROGRAMS, AND OBJECTIVES

The County's 1985 Housing Element included goals, policies, programs, and objectives. Quantified objectives originally presented in the Contra Costa County Housing Program table in the 1985 Housing Element, have been presented for evaluation purposes separately in Table 6-1.

1985 HOUSING NEEDS

The Association of Bay Area Governments (ABAG) provided housing need determination for the County unincorporated areas.

IMPLEMENTATION OF THE 1985 HOUSING ELEMENT

Contra Costa County has combined resources from both the public and private sectors to progress toward the realization of its housing goals. Table 6-2 summarizes the major accomplishments made from 1985 to 1990 in implementing the County's Housing Program in the 1985 Housing Element.

TABLE 6-1
1985 QUANTIFIED OBJECTIVES

<u>Policy</u>	<u>Objectives</u>
3b	Based on 1984 program year, commit at least \$1.6 million, or 50 percent of CDBG ¹ funds, annually for housing.
4a	Provide tax-exempt bond financing for 600 first-time home buyers or 500 apartment renters annually.
11a	Based on 1984 program year, set aside at least \$640,000, or 20 percent of CDBG funds, annually for economic development.
12a	Rehabilitate 75 units annually through housing rehabilitation programs for homeowners.
12b	Rehabilitate 75 units annually through housing rehabilitation of investor-owned (i.e., rental) properties.

¹County Community Development Block Grant.

Source: Contra Costa County 1985 Housing Element, Table 4-1, Contra Costa County Housing Program.

TABLE 6-2
CONTRA COSTA COUNTY HOUSING PROGRAM
MAJOR ACCOMPLISHMENTS, 1985-1990

<u>Policy</u>	<u>Implementation</u>
1a-b, 8b, 13b	Revision of the County's General Plan.
7a-c, 8a-b, 8d, 11d	Measure C, adopted by the voters in 1988, provided a \$.05 sales tax for transportation improvements to communities which implement a housing program and jobs/housing balance measures as part of their five-year capital improvement program.
13b, 1c, 1f, 1h, 1i, 3a, 3d, 3e, 3f, 3g, 3i, 4a, 4c, 5a, 5b, 5f, 7a, 11d, 13e, 13f	Provision of incentives for affordable housing development through use of flexible zoning mechanisms, technical assistance, fee waivers, density bonuses, and public subsidies to achieve affordability in new residential development throughout the County (e.g. Najera Estates, Silvercrest Senior Project).
1d	Development of surplus County owned sites available for affordable housing development and homeless facilities in 1989 and 1990 (Arthur Road, North Richmond modular emergency shelter).
1e	Adoption of the County's Residential Second Unit Ordinance in 1987 and provision of financial assistance to the Duo Program to encourage second unit development.
2a	Initiation of review of land use and development review process through coordination of County Community Development, Building, and Public Works Departments in 1990.
2b	Assessment of all County development fees associated with residential development in 1989.
3b	Commitment of at least 50% of Community Development Block Grant funds for housing and facilities for the homeless annually.
3g, 7b, 7c, 11d, 13c, 13d, 13e, 13f	Development of affordable housing projects in Pleasant Hill BART and North Richmond Redevelopment areas.
3h, 13b, 13c, 7b, 7c, 13d, 13e, 13f, 13g	Establishment of four new County Redevelopment Areas in North Richmond and West Pittsburg in 1987, Oakley in 1989 and Rodeo in 1990. Expansion of the Pleasant Hill BART Station Redevelopment Area to accommodate an affordable housing project.

TABLE 6-2 (Continued)

<u>Policy</u>	<u>Implementation</u>
4a, 13e, 7c	Issuance of \$358,900,000 of County tax-exempt mortgage revenue bond financing could assist nearly 4,400 single-family and multi-family affordable housing units from 1985 to 1990.
5c, 13b	Preparation of annual Housing Assistance Plans establishing and evaluating annual goals for affordable housing development and preservation.
5d, 5e, 12g	Pursuit of available State, federal and private sources of financing for affordable housing development and preservation (including McKinney Act funds for homeless, state Emergency Shelter Program, FmHA 533 rehabilitation funds, Community Reinvestment Act Programs).
5f, 5g	Advocacy for affordable housing development and preservation.
6a, 6b	Implementation and expansion of rent subsidy programs currently assisting households throughout Contra Costa County.
7b, 7c, 8c, 8d, 11d, 13a, 13b, 13c, 13d, 13e	Assistance for neighborhood stabilization and revitalization (County funded capital improvement projects, rehabilitation programs throughout the County, Revitalization Studies of West Pittsburg and North Richmond in 1989/90, Neighborhood Enhancement Programs in West Pittsburg and North Richmond in initiated in 1990).
8a, 8b, 8d, 13b	Adoption of the County's Capital Improvements Plan.
9a, 9b	Encouragement of energy conservation/efficiency in new and existing residential development through land use requirements, implementation of the County's weatherization and rehabilitation programs.
6a, 10a, 10b, 10c	Support of local agencies providing fair housing assistance and enforcement.
10a, 10b, 10c	Participation in, and provision of and support for, Community Housing Resource Boards to encourage and monitor fair housing practices in the real estate industry.
11a, 13f	Provision of financial assistance for economic development activities, such as assistance for small business, job training for the homeless and disabled populations, and job creation through commercial/industrial development and programs for the homeless and disabled populations.
11a, 11b, 11c	Establishment of a new County Economic Development Department to encourage economic development in Contra Costa County initiated in 1990.

TABLE 6-2 (Continued)

<u>Policy</u>	<u>Implementation</u>
11c, 11d	Adoption of a County Growth Management Plan as part of this General Plan to propose mitigations for impacts of residential development on public services and facilities and provide a jobs/housing balance in Contra Costa County.
12a, 12b, 12c, 13c, 13d, 13f, 13g	Implementation and expansion of County rehabilitation programs for lower income households through financial assistance from the County and the capture of State and federal rehabilitation funds such as the federal Rental Rehabilitation Program, Section 312 funds, Farmers Home Administration Funds and Comprehensive Improvement Assistance Program for public housing modernization.
12c, 11d	Assistance for rehabilitation projects such as group homes for mentally disabled.
1i, 12g, 13e, 14d	Assistance to self-help development projects for farmworkers and other lower income household (Najera Estates and Marsh Creek Vista).
14a, 14c, 14f	Development of, and provision of financial assistance to, special housing needs projects such as Shelter Inc.'s Pittsburg Transitional Family Center, Volunteer of America's Transitional Family facility, Phoenix Programs Multi-Service Centers and emergency shelter, Battered Women's emergency and transitional facilities, Winter Relief National Guard Armory Shelter Programs, proposed North Richmond modular emergency shelter, Shell Avenue transitional/emergency shelter facility, Housing for Independent People disabled facilities, sober living group homes, Tri-Counties Women's Recovery Residential facility, Diablo Valley Alcohol Recovery facility, Bi-Bett Teenage Alcohol Recovery facility, group homes for developmentally disabled (Harmony Home, Las Trampas), Byron Park senior project, San Pablo senior housing project, Silvercrest Senior Housing project.
14e	Establishment of the Farmworker Housing Task Force to assess and address farmworker housing needs.
14a, 14f	Preparation of annual Comprehensive Homeless Assistance Plans and Performance Reports to establish and evaluate goals to address the needs of homeless populations.
14a	Assistance to local agencies to create shared housing programs.
6b, 14a, 14f	Assistance to local agencies providing emergency rental assistance to the homeless or those at risk of becoming homeless.

TABLE 6-2 (Continued)

<u>Policy</u>	<u>Implementation</u>
14a, 14f	Participation in local and regional networks to assess and develop strategies to address the needs of homeless populations such as Homebase, Public Advocates, Community Homeless Action and Resource Team, the Homeless Advisory Committee to the County Board of Supervisors, the Homeless Management Team, and the Homeless Operations Committee.
14f	Establishment of the Housing Bond Trust Fund which has provided funds for transitional and emergency shelter for the homeless.

The 1985 County projected housing need for the unincorporated areas was 4,304 units for the period of 1985 to 1990. Tables 6-3 and 6-4 portray the projected housing needs broken down by household income category and housing tenure. The County has far exceeded its goals for meeting the projected housing needs for different income categories particularly for housing affordable to very low and low income households. The County also has far exceeded its 1985 Quantified Objectives for newly constructed and rehabilitated housing financed through the County. The County has not met its goals for funding economic development projects due to the small number of funding requests for these projects. In addition, increasingly stringent federal standards for economic development projects have restricted the use of County Community Development Block Grant (CDBG) funds for these activities.

Table 6-5 presents the number of rental and homeowner units produced, subsidized, or rehabilitated during the five-year period from April 1985 to April 1990. These include affordable units located in County unincorporated areas or funded by Contra Costa County (which includes projects in incorporated areas). The units are broken down by income category for units affordable to very low, low, moderate, and above moderate income households for comparison to projected housing needs for different income groups. New units affordable to very low, low, and moderate income households, either newly constructed or newly subsidized to achieve affordability, totaled 3,392 units. Including rehabilitated units, this number totals 4,901 units. The number of affordable units assisted by the County or provided in unincorporated areas was more than double the need identified for the unincorporated areas by ABAG. The number of affordable units for very low income households fared even better, exceeding the identified need by 182 percent.

New housing that is affordable to very low income households has been created primarily through County mortgage revenue bond issues, which provided financing for rental development with a set-aside of 20 percent of the units for very low and low income households. The other major source of new funding for housing affordable to very low income households has been the U.S. Department of Housing and Urban Development (HUD) rental assistance programs, namely, Section 8 Certificates and Housing Vouchers. The County's Rental Rehabilitation Program operated by the County Housing Authority has also served primarily very low income households through County CDBG and federal Rental Rehabilitation Program funds. The County Housing Rehabilitation Program has also primarily served very low income homeowners.

TABLE 6-3
DISTRIBUTION OF 1985 PROJECTED HOUSING NEEDS
(by Income)

	<u>Number</u>	<u>Percent</u>
Very Low	861	20%
Low	602	14%
Moderate	861	20%
Above Moderate	1,980	46%

TABLE 6-4
DISTRIBUTION OF 1985 PROJECTED HOUSING NEEDS
(by Tenure)

<u>Owner</u>	<u>Renter</u>	<u>Total</u>
3,258	1,046	4,304

TABLE 6-5

CONTRA COSTA COUNTY NEW AFFORDABLE HOUSING PRODUCTION,
ASSISTANCE, AND REHABILITATION
(1985-1990)

Project/Area	Developer Type	Type	Number of Units by Income Level					Assisted Total	Total	Source of Public Units
			Very Low	Low	Moderate	Market				
NEW PRODUCTION										
<u>Homeownership</u>										
Arthur Rd., unincorporated Martinez	For profit	Family		4		37	4	41	Density Bonus	
County Mortgage Revenue Bond Program, Countywide	For profit and non-profit	Family	20	404	810	0	1,234	1,234	MRB, Density Bonus	
ATAP, North Richmond	For profit			7			7	7	CDBG, Redevelopment	
Najera Estates, Oakley	Non-profit	Farmworker Family Sweat Equity		56			56	56	Density Bonus FmHA, CDBG	
Willowbrook, Pinole	Non-profit/ for profit joint venture	Family	—	19	32	159	51	210	Density Bonus, CHFA, 1988 MRB	
Subtotal Homeownership			20	490	842	196	1,352	1,548		
<u>Rental</u>										
Byron Park, Uninc. Walnut Creek	For profit	Senior Congregate Care	38			149	38	187	1989 MRB	
Desco Premiere, Pleasant Hill	For profit		13		19	179	32	110	Redevelopment	

TABLE 6-5 (Continued)

			Number of Units by Income Level					Source of Public Units	
Project/Area	Developer Type	Type	Very Low	Low	Moderate	Market	Assisted Total		Total
El Cerrito Royale, El Cerrito	For profit	Senior	30	21		51	51	102	CDBG, Density Bonus, 1987 MRB, Redev.
Hidden Cove, West Pittsburg	For profit			88			88	88	LIHTC
HIP, Pittsburg	Non-profit	Mentally Disabled	7				7	7	CDBG, HUD, SHURP
Lakeshore, Antioch	For profit	Family		54		214	54	268	1985 MRB
Mission Pines, Martinez	For profit	Family		10		52	10	62	1985 MRB
Moraga Royale, Moraga	For profit	Senior	14	24		57	38	95	1985 MRB
Nicole Estates, El Cerrito	For profit	Family	2	2		16	4	20	1985 MRB
Park Meadows, Sonoma	For profit	Family	11	1		49	12	61	1985 MRB
Park Regency, Uninc. Pleasant Hill	For profit	Family	84		50	758	134	892	Redev. 1989 MRB
Rivershore, W. Pittsburg	For profit	Family	35	14		196	49	245	1985 MRB
Runaway Bay, Antioch	For profit	Family	52	4		224	56	280	1985 MRB
San Pablo Senior Housing	Non-profit	Senior	14	40		224	56	280	CDBG, LIHTC, Redevelopment
Second Units				71	70		141	141	
Silvercrest, El Sobrante	Non-profit	Senior		50			50	50	CDBG, Density Bonus, 202

TABLE 6-5 (Continued)

Project/Area	Developer Type	Type	Number of Units by Income Level					Assisted Total	Total	Source of Public Units
			Very Low	Low	Moderate	Market				
Sycamore Meadows, Antioch	For profit	Family	25	2		109	27	136	1985 MRB	
Twin Creeks, Antioch	For profit	Family	30	26		184	56	240	1985 MRB	
Van Jansee Manor, Brentwood	For profit	Family	4			9	4	13	1985 MRB	
Del Norte Courts, El Cerrito	For profit	Family	28			108	28	136	1990 MRB	
Subtotal Rental			387	407	139	2,355	933	3,288		
SUBTOTAL NEW PRODUCTION			407	897	981	2,551	2,285	4,836		
NEWLY ASSISTED - EXISTING UNITS										
<u>Homeownership</u>										
Mortgage Credit Certificate Program, Pittsburg					120		120	120	MCC	
County Mortgage Revenue Bond			10	86	127		223	223	1985, 87-89 MRB	
Subtotal Homeownership			10	86	127	0	223	223		
<u>Rental</u>										
Contra Costa Housing Authority										
- Section 8 Certificates			311				311	311	HUD	
- Vouchers			506				506	506	HUD	
Harmony Home, Clayton	Non-profit	Devt. Disabled Group Home	1				1	1	CDBG	
HIP Concord	Non-profit	Ment. Disabled Group Home	1				1	1	CDBG	

TABLE 6-5 (Continued)

Project/Area	Developer Type	Type	Number of Units by Income Level						Source of Public Units
			Very Low	Low	Moderate	Market	Assisted Total	Total	
Las Trampas	Non-profit	Ment. Disabled Group Home	1				1	1	CDBG
Phoenix, San Pablo	Non-profit	Disabled Group Home	1				1	1	CDBG
Phoenix, Walnut Creek		Devt. Disabled Group Home	1				1	1	CDBG
Subtotal Rental			822	0	0	0	822	822	
SUBTOTAL NEWLY ASSISTED			832	86	127	0	1,045	1,045	
REHABILITATION									
<u>Homeowner</u>									
City of Pittsburg Rehab Program				28			28	28	CDBG, HUD
City of San Pablo Rehab Program			37	31			68	68	CDBG
Colonia Santa Maria, Brentwood	Non-profit	Farmworker Cooperative	12				12	12	CDBG
County Rehab Program			258	78			336	336	CDBG, HUD
Guadalupe Co-op, Brentwood	Non-profit	Farmworker Cooperative	7				7	7	CDBG
N. H. S., Richmond	Non-profit		1				1	1	CDBG
Rural Housing Preservation, East Germany			25				25	25	FmHA 533
Subtotal Homeownership			340	137	0	0	477	477	

TABLE 6-5 (Continued)

Project/Area	Developer Type	Type	Number of Units by Income Level					Assisted Total	Total	Source of Public Units
			Very Low	Low	Moderate	Market				
<u>Rental</u>										
BiBett	BiBett			27	30			57	57	CDBG
City of Pittsburg Rehab Program			42	11				53	53	
Public Housing Modernization	Housing Authority									
Bayo Vista, Rodeo			250					250	250	CDBG, CIAP
Casa Serena, W. Pittsburg			50					50	50	CDBG, CIAP
Las Deltas, N. Richmond			226					226	226	CDBG, CIAP
Los Medanos, W. Pittsburg			86					86	86	CIAP
Rental Rehab Program, Countywide			175	115				290	290	CDBG, RRP
Rubicon Apartments	Rubicon	Mentally Disabled	12					12	12	HUD
San Joaquin Apartments	Rubicon	Mentally Disabled	8					8	8	HUD
Subtotal Rental			849	153	30	0		1,032	1,032	
SUBTOTAL REHABILITATION			1,189	290	30	0		1,509	1,509	
TOTAL NEW PRODUCTION AND NEWLY ASSISTED			1,239	983	1,108	2,551		3,330	5,881	
TOTAL NEW PRODUCTION, NEWLY ASSISTED AND REHABILITATION			2,428	1,273	1,138	2,551		4,839	7,390	
1985 UNINCORPORATED COUNTY HOUSING NEEDS (per ABAG)			861	602	861	1,980		2,324	4,304	
PERCENT EXCEEDING 1985 HOUSING NEEDS			182%	111%	32%	N/A		108%		

TABLE 6-5 (Continued)

Source: Contra Costa Community Development Department

CDBG	= Contra Costa County Development Block Grant	RRP	= Federal Rental Rehabilitation Program
LIHTC	= Low Income Housing Tax Credits	SHURP	= Special Housing and Urban Renewal Program
MRB	= Contra Costa Mortgage Revenue Bond Program	HCD	= California Dept. of Housing and Community Development
FmHa	= Farmers Home Administration	202	= HUD Section 202 Program
Redev.	= Contra Costa Redevelopment Agency	MCC	= Mortgage Credit Certificates
HUD	= U.S. Department of Housing and Urban Development	CIAP	= Comprehensive Improvement Assistance Program
N/A	= Not applicable. Table does not include all market units, only those within affordable projects.		

Units listed include assisted affordable units in County unincorporated areas and units assisted through Contra Costa County funds located in both incorporated and unincorporated areas.

New housing production for low-income renters and home buyers has again been achieved through County mortgage revenue bond issues. Other units have been developed through Farmers Home Administration funds and non-profit developing "sweat equity" housing. More recently, State and federal Low Income Housing Tax Credits have financed rental units affordable to households with incomes up to 60 percent of County median income.

The County's single-family mortgage revenue bond financing has provided housing primarily for moderate income households. A new pilot Mortgage Credit Certificate Program administered by the County is expected to primarily benefit moderate income households.

A number of factors have constrained further accomplishments in providing affordable housing in Contra Costa County. Cutbacks of approximately 75 percent in federal funding for lower income housing over the last decade have greatly diminished resources to develop affordable housing. The level of CDBG funds allocated to the County has declined by over 40 percent since 1980 and by almost 15 percent since 1985. In real terms (adjusted for inflation), the level of CDBG funding has declined 65.6 percent over the last decade. In addition to this reduction in available funds, increasing demands for services and emergency shelter for the homeless have eaten into the amount of funds available for permanent housing development. When the County has been able to generate funds for low income housing development through active participation as a mortgage revenue bond issuer, its capacity has been constrained by stiff competition for these funds under federally imposed State volume caps. Uncertainty created by a California Supreme Court ruling prevented the County or the County Housing Authority from pursuing the necessary voter approval to directly develop low income rental housing. However, the Supreme Court has now reversed its 1988 ruling. Another factor is the annexation and incorporation of unincorporated County land, which reduces the availability of land to the County for development purposes.

Other factors have enhanced the County's ability to assist in affordable housing development. The federal 1987 McKinney Homeless Assistance Act provided new funding for a variety of programs to provide emergency shelter, transitional housing, and permanent housing for the handicapped homeless. Two State initiatives have generated a total of \$450 million for affordable housing development and rehabilitation. A number of active non-profit housing corporations have utilized their development expertise, track record, and fundraising capabilities to capture available funds from federal and State housing programs as well as the private sector. Local jurisdictions have also

made key contributions by providing land use approvals, in the face of neighborhood opposition, and financial support, from General Funds, CDBG funds, and redevelopment area tax increment dollars, for affordable housing and emergency shelter. The establishment of a County Redevelopment Agency has generated tax increment funds for affordable housing.

6.3 EXISTING AND PROJECTED HOUSING NEEDS, 1988 TO 1995

Under Section 65581-4 of the California Government Code, cities and counties are required to make a sustained, serious effort to provide for their appropriate share of the State housing goals and regional housing needs at all income levels, as determined by the local council of governments. Local jurisdictions are given discretion as to how best to address local housing needs given available resources, local market conditions, and political constraints.

The Association of Bay Area Governments (ABAG) is required to calculate each local jurisdiction's share of the existing and projected housing needs for households at all income levels of the San Francisco Bay region for each of the five-year updates of local Housing Elements. ABAG must take the following factors into account: market demand for housing; employment opportunities; availability of suitable sites and public facilities; commuting patterns; type and tenure of housing need; and the housing needs of farmworkers. The fair share calculations are adjusted to avoid impactation of localities with high proportions of lower income households.

In consultation with local government, ABAG developed a series of mathematical expressions which attempted to "model" the regional housing market, recognizing the limitations of the available data. (These included relying on 1980 census data for existing jurisdictional boundaries, along with the service areas and/or city spheres of influence used in ABAG's Projections '87.) The series is referred to as the ABAG Housing Needs Model. Pursuant to a California Attorney General's opinion, ABAG now makes housing needs determinations which examine the potential for residential development at higher densities than currently allowed under local zoning ordinances, if potential development under current zoning would not adequately address housing needs.

ABAG's Housing Needs Determinations, published in January 1989, included the existing housing need as of January 1, 1988 and the projected need for the 7-1/4-year period, from 1988 to April 1, 1995 for each city and county (unincorporated areas) by four income categories: very low, low,

moderate, and above moderate. ABAG's housing needs determinations for the County unincorporated areas represent the "fair share" responsibility for the County. The "existing need" determination estimates the total number of units needed to bring vacancy rates to a healthy 4.5 percent, which would allow normal turnover in a market where the supply of housing is in equilibrium with demand. "Projected need" includes existing need, as well as the number of additional units required to accommodate future household growth, along with housing demands from the local labor supply within each jurisdiction. "Projected need" is broken down into two time periods: 1988 to 1990 and 1990 to 1995.

ABAG's projected need for the unincorporated area of Contra Costa County from 1988 to 1995 is 6,447 units, which ABAG determined could be accommodated without changes to existing zoning ordinances or policies. The total projected need for the entire County (cities and unincorporated areas) is 48,756 units, 42,309 of which are the "fair share" of the County incorporated areas (see Table 6-6).

State law requires ABAG to determine housing needs for all income levels, so that each jurisdiction can provide for its "fair share" of housing for each income group. ABAG uses the income categories of "very low" for household incomes up to 50 percent of median income for the region as determined by the Census Bureau in 1980; "low" for 51 to 80 percent of median income; "moderate" for 81 to 120 percent of median income; and "above moderate" for a household income greater than 120 percent of the regional median income.

Based on the distribution of households in different income categories, reported in the 1980 Census, ABAG compares each jurisdiction's housing needs for each income group to a regional distribution. In the Bay Area, 23 percent of the households were very low income, 16 percent were low, 21 percent were moderate, and 40 percent were above moderate income. In contrast, Contra Costa County's countywide income distribution was 20 percent very low income, 14 percent low, 20 percent moderate, and 46 percent above moderate income.

ABAG averages regional, county and city (if applicable) distributions of income levels to calculate each jurisdictional housing needs determination, to achieve a more equitable distribution of housing opportunities and to avoid increased impact of communities with high concentrations of lower income households. Contra Costa County's fair share responsibilities to provide affordable housing

TABLE 6-6
EXISTING AND PROJECTED HOUSING NEEDS
CONTRA COSTA COUNTY AND CITIES
1988-1995

	<u>Existing Need</u>	<u>Projected Need 1988-90</u>	<u>Projected Need 1990-95</u>	<u>Alternative Zoning Projected Need</u>	<u>Total Projected Need</u>
Incorporated Areas	2,959	13,271	25,207	3,831	42,309
Unincorporated Areas	911	2,627	3,820	0	6,447
County Total	3,870	15,898	29,027	3,831	48,756

Source: ABAG, Housing Needs Determinations, January 1989.

TABLE 6-7
EXISTING AND AVERAGED INCOME PERCENTAGES
BAY AREA, COUNTY AND UNINCORPORATED AREAS

	<u>Very Low</u>	<u>Low</u>	<u>Moderate</u>	<u>Above Moderate</u>
Regionwide	23	16	21	40
Unincorporated				
Actual	18	13	19	50
Averaged	20	14	20	46
County Total	20	14	20	46

Source: ABAG, Housing Needs Determinations, January 1989.

to lower income households in its unincorporated areas have been increased somewhat as a result of this process, as presented in Table 6-7.

ABAG applies the income category distribution to each jurisdiction's total projected housing need to calculate the housing needs for each income category in that area (see Table 6-8). Tables 6-9 and 6-10 show the projected County housing need by tenure; and purchase price and rental cost; respectively. Contra Costa County unincorporated area projected housing need for the period 1988 to 1995 as of January 1, 1988, was 1,289 units affordable to very low income households, 903 affordable to low income households, 1,289 affordable to moderate income households, and 2,966 affordable to above moderate income households. In summary, 3,481 units affordable to very low, low and moderate income households are needed in County unincorporated areas to achieve a healthy housing market. The majority of the need for housing affordable to low very, low and moderate income households in Contra Costa County is in its incorporated areas. The County will continue to rely on many of the same resources utilized in the 1985-1990 period to address housing needs.

The County has learned during that period, however, that federal and State resources are continuing to diminish, and the County will have to place increasing reliance on local resources used in partnership with non-profit and private sectors. Given federal deficits and priorities, the County does not anticipate substantial increases in direct federal funding of housing activities. Federal resources may be subject to a different allocation method in which local control becomes more prominent. This can only enhance the opportunities to use the scarce federal resources in a more optimal manner.

Availability of State resources are also likely to be scarce. Resources are more likely to be available during the early years of the 1990-1995 time period of this Housing Element. Recent initiatives for additional financing of housing activities have not been approved by voters. Therefore, the availability of funds after 1991 may be limited. The ability of the County to generate its own resources through the issuance of tax exempt bonds is continually being diminished or potentially eliminated by changes in federal tax law. The ability to provide home ownership opportunities through the issuance of Single Family Bonds or Mortgage Credit Certificates is now scheduled to terminate on December 31, 1991. Renewal efforts may be difficult to achieve. The issuance of Multi-Family Bonds, which was a major vehicle for the financing of affordable rental

TABLE 6-8
PROJECTED HOUSING NEED BY INCOME CATEGORY
CONTRA COSTA COUNTY AND CITIES

<u>Jurisdiction</u>	<u>Total Projected Need</u>	<u>Very Low</u>	<u>Low</u>	<u>Moderate</u>	<u>Above Moderate</u>
Antioch	6,343	1,395	951	1,395	2,602
Brentwood	1,905	476	343	381	705
Clayton	241	39	29	39	134
Concord	3,923	785	628	824	1,686
Danville	2,444	391	293	440	1,320
El Cerrito	722	152	108	144	1,156
Hercules	2,181	349	262	414	1,156
Lafayette	333	63	43	60	167
Martinez	1,745	366	244	349	786
Moraga	958	163	125	172	498
Orinda	269	43	32	46	148
Pinole	769	146	108	161	354
Pittsburg	3,910	899	587	860	1,564
Pleasant Hill	1,529	306	229	321	673
Richmond	4,823	53	280	1,553	2,937
San Pablo	278	75	47	58	98
San Ramon	7,669	1,227	920	1,457	4,065
Walnut Creek	2,267	453	340	453	1,021
Unincorporated Areas	6,447	1,289	903	1,289	2,966
Countywide	48,756	8,670	6,472	10,416	23,198

Source: ABAG, Housing Needs Determinations, January 1989.

TABLE 6-9
PROJECTED HOUSING NEED BY TENURE
(UNINCORPORATED COUNTY)

<u>Owner</u>	<u>Renter</u>	<u>Total</u>
4,255	2,192	6,447

TABLE 6-10
PROJECTED HOUSING NEED BY
PURCHASE PRICE AND RENTAL COST

<u>Income Category</u>	<u>Number of Units</u>	<u>Purchase Price¹</u>	<u>Rent Levels²</u>
Very low	1,289	Less than \$55,000	Less than \$560
Low	903	\$55,000-88,000	\$560-880
Moderate	1,289	\$88,000-132,000	\$880-1,300
Above moderate	2,966	Above \$132,000	Above \$1,300

¹2.5 times.

²Affordable to family of four based on 30 percent of HUD 1990 median income figures for Oakland PMSA (Alameda and Contra Costa Counties).

housing projects in the mid-1980s, is increasingly difficult because of additional restrictions placed in federal law in 1986.

In addition, the ability to use this type of financing and the low income housing tax credit program is fairly limited in this County due to the relatively high land and development costs and the high market rents. Projects with significant public participation tend to be the only projects that utilize such financings. Tax-exempt financing may reemerge in more significant form as a financing vehicle for projects owned by non-profit organizations. Recent tax law amendments provide specific authorization for qualified 501(c)(3) bonds while this may represent an emerging opportunity it may require significant public participation.

The decade of the 1990s should also represent a period in which the County's investment in the redevelopment process will begin to provide meaningful resources, particularly in the housing area. The County has adopted redevelopment plans for five unincorporated communities. Those areas will begin to generate significant tax increments during the decade of the 1990's and a relatively significant amount of financial resources will be available for housing that were not available in the prior planning periods.

6.4 CONTRA COSTA COUNTY HOUSING MARKET

Contra Costa County is part of the larger Bay Area housing market. The County includes several sub-markets within its boundaries which are determined by a combination of topography; historical development patterns; and social and economic phenomena. The County is large and diverse but can be divided into three primary sub-areas; West County which is highly urbanized with a developed industrial base; Central County which is a rapidly urbanizing community with much new office and light industrial development, and East County which was primarily agricultural but which is now experiencing considerable residential development. Central and East County have been further subdivided. Central County is composed of North Central County, Lamorinda, and the San Ramon Valley. East County can be further separated into Pittsburg-Antioch and Other East County areas.

West County includes the cities of El Cerrito, Richmond, San Pablo, Pinole, and Hercules, as well as the unincorporated communities of Kensington, El Sobrante, Rodeo, Crockett, and Port Costa.

Central County includes the Lamorinda area (the cities of Lafayette, Moraga, and Orinda, as well as the unincorporated area of Canyon); North Central County, which takes in all of the cities and unincorporated communities along the northern Interstate 680 corridor (the cities of Walnut Creek, Concord, Clayton, Pleasant Hill, and Martinez and the unincorporated areas of Pacheco, Vine Hill, Clyde, the Pleasant Hill BART station, and Saranap); and the San Ramon Valley (unincorporated Alamo, the cities of Danville and San Ramon, and the unincorporated Blackhawk and Tassajara areas).

East County includes the fast growing Pittsburg-Antioch area, which stretches along Route 4 from the Willow Pass grade northeast of Concord to Route 84 near Oakley. The Pittsburg-Antioch area includes the two cities, as well as the unincorporated community of West Pittsburg.

The term "Other East County" refers to the remainder of the East County sub-area, which includes the city of Brentwood, and the unincorporated areas of Oakley, Bethel Island, Knightsen, Byron, and Discovery Bay.

A detailed presentation and analysis of the social and structural characteristics of the County housing market is included as Appendix A to the County General Plan. A brief statistical profile of the County and its sub-areas (see Figure 6-1) is provided in Table 6-11. The analysis presented in Appendix A provides some interesting insights into the dynamics of the Contra Costa County housing market. This section summarizes the major trends and factors affecting the County housing market.

6.5 SPECIAL HOUSING NEEDS

VERY LOW AND LOW INCOME HOUSEHOLDS

According to ABAG estimates, 20 percent of Contra Costa households have very low incomes and 14 percent have low incomes. Based on January 1990 population figures and ABAG 1990 household estimates, this means that 60,738 households and 160,586 people are very low income and that 42,517 households and 112,410 people are low income.

Within these populations are the working poor, those on public assistance, and the homeless. Contrary to stereotypes of low income families as single mothers on welfare, this population is comprised primarily of the working poor. Based on HUD 1990 estimates of low income levels for Contra Costa County (see Table 6-12), this population includes households with incomes up to \$24,700 to \$35,300 for 1- to 4-person households. These income levels include occupations such as teachers, policemen, etc. Even very low income households, with incomes up to within \$15,750 and \$22,500 for one to four persons, include the employed. At the current minimum wage rate, a two-worker family with children would be very low income even when both parents are employed full-time. Full-time minimum wage employees only earn \$8,840 per year.

According to the most recent Housing Assistance Plans for Contra Costa County and the Entitlement Cities, there are 28,464 lower income households in need of rental assistance in the County.

According to the County Social Services Department and the Social Security Administration, there were 14,633 Assistance to Families with Dependent Children (AFDC), 4,661 General Assistance, and 4,014 Social Security cases in August 1990. Of the AFDC assisted families, 560 required homeless assistance.

Very low and low income households have the greatest need for affordable housing. These households are most likely to be spending more than 30 percent of their incomes for housing, which could adversely affect their ability to pay for other necessities such as food or medical care. This population is most vulnerable to rent increases and has the most difficulty paying initial move-in costs for rental units, such as security deposits and last month's rent, and therefore, is the most at risk of becoming homeless. Very low and low income households may also have difficulty obtaining affordable housing because they do not have established credit histories.

In 1980, federal funding and local government project administration helped add 150,000 units of public and privately owned housing to the nation's affordable housing stock. By 1988, the production had dropped to 19,000 units per year for the entire country. While overall federal funding for lower income housing has been cut by over 75 percent over the last decade, federal funding for new and rehabilitated housing has been cut by 90 percent since 1981. In tight housing

Figure 6-1 Sub-Areas of Contra Costa County

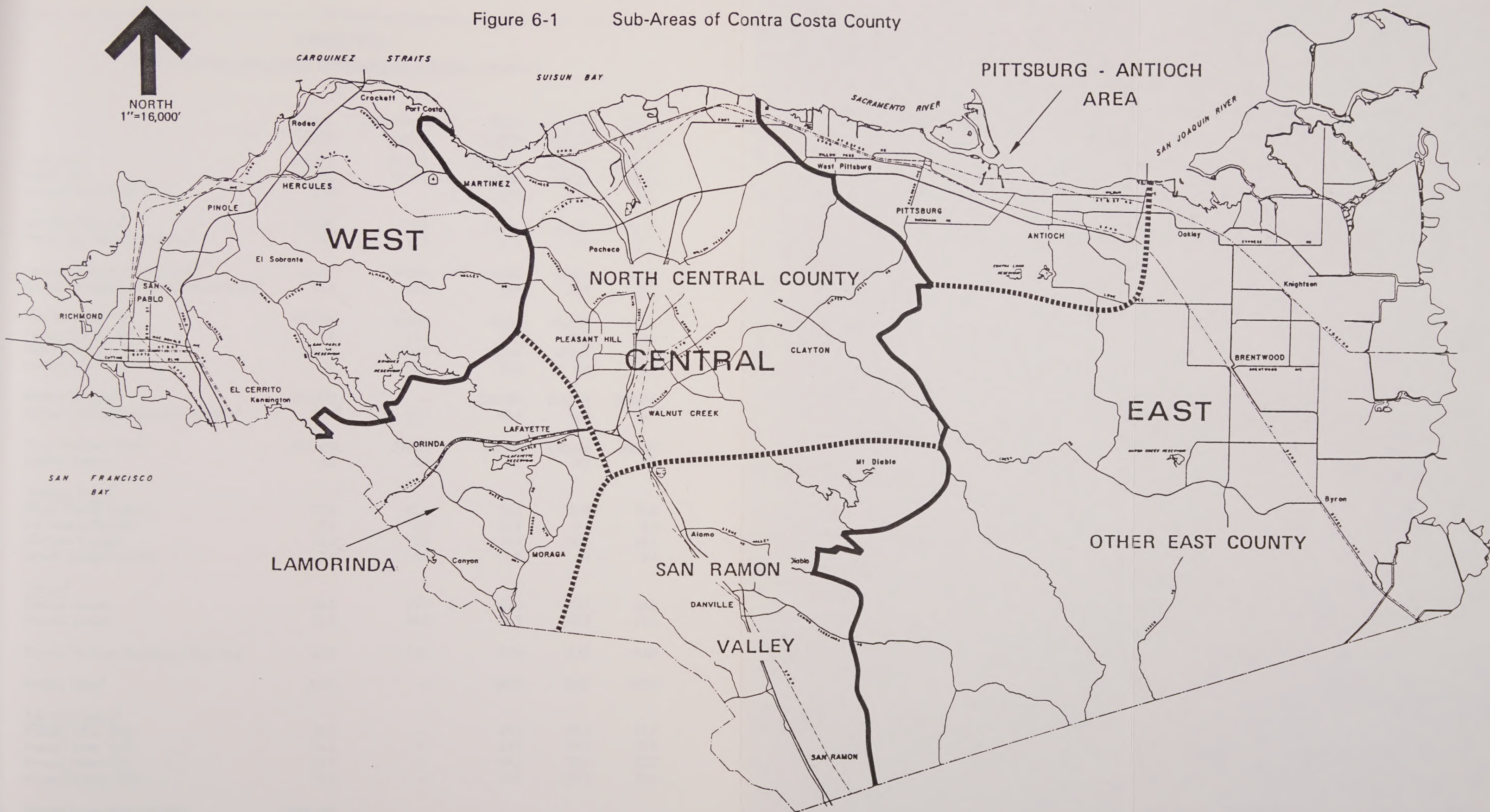


TABLE 6-11
STATISTICAL PROFILE OF CONTRA COSTA COUNTY

	<u>Total County</u>	<u>Unincorporated County</u>	<u>West County</u>	<u>Central County</u>	<u>East County</u>
Population	835,553	187,235	212,600	459,053	163,900
Households	307,450	57,311	80,930	168,168	58,352
Average Household Size ¹	2.57		2.54	2.53	2.71
Minority Persons ²	46,490	7,428	25,791	11,156	9,543
Percent of Minority Persons ²	19.2	14.2	37.1	8.4	24.7
Female Head of Households ²	58,787	10,385	20,537	29,892	8,358
Percent of Female Headed Households ²	24.3	19.8	29.5	22.4	21.7
Persons Under 18 ²	181,009	39,196	49,848	96,053	35,108
Percent Under 18 ²	27.6	27.1	27.1	26.6	31.7
Persons 65+ ²	60,844	12,413	18,818	32,917	9,109
Percent 65+ ²	9.3	8.6	10.2	9.1	8.2
Median Income ²	\$22,875	---	\$18,808	\$26,794	\$19,509
Percent Low and Moderate Income ²	38.7	35.7	48.8	31.0	45.4
Total Housing Units ¹	307,450	59,089	84,902	168,168	58,352
Percent Vacant	4.0	4.4	3.3	3.7	6.4
Housing Types ²					
Single Family Percent	72.4	82.1	72.1	72.8	75.6
2-4 Person Percent	7.4	5.2	11.6	5.6	6.9
Multiple Percent	18.2	8.9	14.8	20.2	13.1
Mobile Home Percent	2.0	4.6	1.6	1.4	4.4
Tenure ²					
Percent Owner	68.3	75.7	63.3	70.7	68.8
Percent Renter	31.7	24.3	36.7	29.3	31.2
Percent Without Exclusive Plumbing	0.58	0.56	0.74	0.43	0.85
Median Rent ³	\$625	---	\$625	\$665	\$510
Age of Housing ¹					
Percent After 1980	20.1	---	15.4	18.1	32.4
Percent After 1970	24.8	---	13.2	29.4	27.8
Percent 1960-1969	21.7	---	19.2	25.1	12.7
Percent Before 1960	34.0	---	52.2	27.3	27.0
Median Sales Price (1989) ⁴	\$196,242				

TABLE 6-11 (Continued)

¹ Contra Costa County Community Development Department, August 1990.

² 1980 U.S. Bureau of the Census.

³ Contra Costa County Community Development Department, November 1989, for 2 bedroom apartments.

⁴ California Association of Realtors, May 1989.

Source: California Department of Finance as of January 1, 1990, unless otherwise noted.

TABLE 6-12
1990 MEDIAN INCOME LEVELS

<u>Household Size</u>	<u>Very Low</u>	<u>Low</u>	<u>Moderate</u>
1 Person	\$15,750	\$24,700	\$37,100
2 Person	18,000	28,250	42,350
3 Person	20,250	31,750	47,650
4 Person	22,500	35,300	52,900
5 Person	24,300	37,500	56,200
6 Person	26,100	39,700	59,500
7 Person	27,900	41,950	62,800
8 Person	29,700	44,150	66,200

Source: U.S. Department of Housing and Urban Development figures released February 1990 for Oakland PMSA (Alameda and Contra Costa Counties) based on a median income of \$44,100 for a family of four.

markets such as Contra Costa County's, the lack of supply of affordable housing is a substantial cause of the affordability problem.

Since 1974, the United States lost 2 million units of unassisted low and moderate rent housing to abandonment, demolition, conversion to higher rent units, or conversion to condominium housing. Between 1974 and 1983, while the supply of high-rent housing increased 49 percent, the supply of low-rent housing fell 9 percent. To further aggravate the problem, the passage of the Tax Reform Act of 1986 has resulted in cutting the production of new multi-family housing units by 50 percent nationwide.

This tremendous reduction in production of affordable housing units is occurring while the demand for low-income housing is increasing. Only one in four eligible low-income households benefits from a federal housing program. Housing authorities throughout the country have long waiting lists for its public housing and Section 8 Certificates programs. In Contra Costa, the County Housing Authority has a waiting list of 2,729 low-income families for its public housing program and over 3,000 on the waiting list for the Section 8 Certificates and Housing Voucher program. Because of the overwhelming demand for Section 8 rental assistance, the waiting list for the Section 8 Certificates and Housing Voucher program had been closed for nearly three years, and no new applications have been taken during this period.

The Section 8 certificates and housing vouchers programs are also in jeopardy. Expiring Section 8 contracts need to be extended each year by the federal government. Nationwide, Congress needs to appropriate \$7.2 billion to refund contracts expiring this year alone. In Contra Costa County (not including Richmond and Pittsburg), contracts for 3,700 units could expire next year. Housing vouchers, currently received by 550 families in Contra Costa County, also need to be extended every five years (not including those in Richmond and Pittsburg).

The shortage of housing affordable to very low and low income households is expected to be exacerbated as publicly assisted or subsidized low income rental housing is threatened with conversion to market rate rent levels or to other uses. A problem facing communities nationwide is that of owners of federally assisted low income rental projects prepaying mortgages and terminating rent subsidies. Under many prior federal rental construction subsidy programs, for-profit owners can usually repay mortgages after 20 years. Later new-construction programs allow

owners to opt out of the program every five years. As changes in federal tax legislation have decreased the availability of tax shelters or as tax shelters expire, participation in federal subsidy programs has become less attractive to many owners of well-maintained buildings in areas with high market rents. The result is that owners can raise rents to market levels or convert to condominiums or other uses and involuntarily displace the low income residents.

In addition, over 3,000 units have been financed by the County and local cities in Contra Costa County through the issuance of tax-exempt bonds. Projects financed prior to 1986 have ten-year terms for affordability that will terminate in the mid 1990s. Projects financed after 1986 (1987-1990) have 15-year terms, due to expire by the year 2005.

A U.S. General Accounting Office prediction gives an indication of the magnitude of the problem nationwide. They estimate that 1.8 million federally assisted rental units may be lost by the year 2000, or 90 percent of all such units. Contra Costa County could lose 4,461 low income units by the year 2005, according to a list developed by the California Coalition for Rural Housing Project and California Housing Partnership, based on a HUD database of all low income rental units subject to termination of federal mortgages or rent subsidies.

In Contra Costa County, a total of 2,323 units could convert by the year 1995, 514 of which are occupied by senior or handicapped. Forty-two units (6 in Concord and 36 in Walnut Creek) have already converted to market rates.

The profile of the prototype project likely to convert from subsidized to market rate rents reads like a description of Contra Costa County projects:

- o suburban or rapidly urbanizing urban area;
- o good location/good condition to command market rents;
- o market exhibiting substantial growth, escalating housing costs, and low vacancy rates;
- o project rents lower than comparable market rents; and
- o tax shelter exhausted (via use of accelerated depreciation or lost through tax reform).

Federal legislation has helped to slow down the potential conversions on an interim basis. In 1986, a moratorium was placed on mortgage prepayments under the FmHA Section 515 program. Subsequent legislation, the Federal Housing and Community Development Act of 1987 prohibited owners of low income housing from prepaying HUD below market-rate mortgages without HUD's approval of a Plan of Action. These plans are required to demonstrate that the low income residents will not be displaced or experience economic hardship as a result of the conversion. While the legislation intended to provide financial incentives for owners to maintain low income affordability, the necessary funding was not approved. Without the necessary federal funding to preserve these low income units, much of the burden may be placed on local communities to use the funds they have available.

California has established the California Housing Partnership to encourage the joint participation by State and local governments, non-profits, and the private sector to preserve these threatened units at affordable rent levels. States and local jurisdictions have explored legislative remedies to the problem, including (1) extended noticing requirements of a project owner's intention to convert; (2) first right of refusal for a local jurisdiction, Housing Authority, or non-profit corporation to purchase the project; (3) relocation assistance for the displaced tenants; and tax incentives for sale of the project to a non-profit that would preserve the affordability over the long term.

In 1989, the County's Community Homeless Action Resource Team recommended to the County Board of Supervisors that an Affordable Housing Preservation Project be established to research and propose means by which the County and the cities can use their existing financing capabilities, taxing and/or regulatory authority, and staff capabilities to further help avert or mitigate the loss of affordable rental housing. The Affordable Housing Preservation Project could include County and city representatives, as well as representatives of non-profit organizations, tenants and private owners. Suggested areas of local involvement may include, but are not limited to:

- a. Developing/maintaining an inventory of affordable rental housing projects;
- b. Developing an early warning system to identify projects most likely to convert to market rate;
- c. Monitoring compliance with federal and State requirements governing conversion, including determinations of economic hardship, displacement and the supply of affordable housing;

- d. Facilitating sale of the projects to new owners or refinancing that will result in maintained affordability;
- e. Encouraging and facilitating the acquisition of at-risk projects by non-profit organizations by utilizing local resources (CDBG, tax-exempt bonds, development agency housing funds, etc.) in combination with federal and State resources;
- f. Providing technical assistance to troubled projects to avert conversions resulting from problems associated with project operations or management;
- g. Considering use of taxes and exactions to create incentives to maintain affordability or disincentives to conversion; and
- h. Considering land use and rent measures designed to preserve affordable housing, such as:
 - o local notification requirements;
 - o rent moratoriums following conversions;
 - o annual limits on number of units that can convert;
 - o relocation plans and assistance requirement;
 - o conversion permit requirement;
 - o conversion impact plans requirement, including mitigation;
 - o requirement for conformance to current zoning regulations in order to convert;
 - o establishment of top priority provided to preservation of existing low income housing in Housing Element and local implementation programs.

Recent State legislation (SB 1282, 1989), requires all housing elements to include by January 1, 1992 additional needs analysis and programs regarding existing assisted rental housing developments that are eligible to change to non-low income housing uses during the next ten years, due to termination of subsidy contracts, mortgage prepayment, or expiration of use restrictions. These "assisted housing developments" include multi-family rental housing assisted through federal programs; State and local multi-family mortgage revenue bond programs; and local inclusionary, redevelopment and density bonus programs.

Another solution to the housing needs of very low income households are decent, affordable Single Room Occupancy (SRO) hotels. SRO's are hotels or rooming houses which provide a single room, without individual bathrooms and/or kitchens. These units may have shared kitchens, bathrooms, or other common facilities which could accommodate social services for the residents. While these hotels are generally older buildings in need of rehabilitation, many communities are accessing State and federal funds to develop new SRO's to address special housing needs, particularly those for semi-independent living with support services. While SRO's may be the only housing affordable

to many, they provide the housing of choice for some people, such as seniors and special user groups. Although there is currently little information available on existing SRO's in the County, local communities can take measures to preserve existing SRO's, as well as to provide funding for rehabilitation or new development of SRO's.

ELDERLY

In 1980, 9.3 percent of County residents, or 60,844 persons, were 65 years of age or older. The proportion of seniors has been steadily increasing due to increased longevity and lower birth rates. The largest proportion of the over-65 population was located in West County. ABAG's Projections '90 projects that the senior population (age 65 and over) will increase to 87,100 in 1995, or 10.1 percent of the County's population. The proportion of seniors is expected to continue to increase to 11.3 percent through 2005. In 1980, 59 percent of seniors (aged 65 or over) were women.

However, compared to population statistics, a much greater proportion of households were senior in 1980, i.e., 24.2 percent of all California households. Statewide, 85 percent of senior households consist of one or two persons. Estimates from the combined Housing Assistance Plans for Contra Costa County communities indicate the presence of 6,620 elderly, lower-income households that were in need of rental assistance. The predominant problem is overpaying for housing. Although only 9.3 percent of the County population is elderly, the Housing Assistance Plans reveal that 23.3 percent of the rental subsidy needs are for elderly households. Approximately 27 percent of the over-65 population lives in single-person households. Much of this population needs special housing with small, easily-maintained dwelling units. The Housing Authority reports over 425 elderly households are on their rent-subsidy waiting list as of January, 1991.

Many of the elderly are on fixed incomes which may not keep up with the rising costs of housing or increasing medical costs. Deferred maintenance and rising utility costs can particularly be a problem for seniors with limited incomes. Home weatherization, homeowner rehabilitation, and PG&E assistance programs can provide assistance for seniors. A tax postponement program is available to homeowners age 62 and over to defer property tax payments during occupancy in the home.

Seniors who own their own homes may be faced with a problem of a different sort. Reluctant to leave because of familiar surroundings, and because alternatives are costly, they may be burdened by a house too large for their needs and expensive to maintain. As a result, they may be forced to lose their independent living situation prematurely. More efficient use of this housing may occur as a result of shared housing efforts in which elderly people in need of housing are matched with those who have extra housing. The conversion of a portion of a unit into a second unit or "granny flat" are often intended to serve the elderly, as well as make more efficient use of the housing, while providing additional income to the owner. An additional source of revenue for elderly homeowners which may have merit are the reverse annuity mortgage, reverse shared appreciation mortgage, private deed annuity, life estate, or sale/leaseback financing mechanisms which allow the elderly to utilize the substantial equity in their home as supplemental income. Because some of these loans have limitations, the availability of counseling to seniors on these mortgages is important.

Seniors also develop needs for different types of housing as they develop health problems or have decreased mobility. They may need units which have fewer steps, require less maintenance, include social and medical services, and/or have increased security. They may have needs for a continuum of care throughout their lifetime ranging from independent living to institutional care, with many semi-independent options in between. These include multi-family units that are less isolated and require less care; congregate care housing (independent units with central dining and social activities); life care facilities that include meals, housekeeping and medical care; or nursing facilities for the physically or mentally disabled. A 1986 American Association of Retired Persons study, which indicates that only 14 percent of seniors prefer to live in exclusively senior communities, suggests that a full range of housing options, including low cost rental units available to residents of all ages, are needed.

Communities may facilitate the production of additional elderly housing by recognizing that the intensity of the land use may be less when compared to family housing and by adjusting parking requirements, density, and fees/exactions accordingly. General obligation bonds could also be utilized to provide for senior housing developments. A December 1988 Forum sponsored by the County's Area Agency on Aging and the Housing Alliance suggested that such an effort may be particularly well suited to providing for affordable rental housing for senior citizens. Preliminary

analyses of senior citizen housing needs, financial and fiscal implications, and assessments of the electorate should be conducted prior to initiating a specific measure.

DISABLED POPULATIONS

Because limited comprehensive data are available on the extent of the disabled populations in Contra Costa County, the best estimates available are either based on Statewide or nationwide disability rates or actual numbers of clients served through local programs which may be serving overlapping populations. According to the 1980 Census, in Contra Costa County, 35,112 non-institutionalized persons had work disabilities, and 15,600 persons had disabilities that prevented them from using public transportation. The Independent Living Resource Center estimates that roughly 40,000 Contra Costa County residents are physically disabled. As of March 1988, the U.S. Veterans Administration reports 5,823 disabled veterans in Contra Costa County. According to the State Department of Social Services, in an average month in 1986, 9,288 disabled and 409 blind persons in Contra Costa County received Medi-Cal. In addition, 1,898 aged, 8 blind, 590 disabled, and 3,538 families were determined to be medically needy, and 1,151 medically indigent. As reported by the State Employment Development Department, as of December 1987, 15,666 persons in Contra Costa County received Supplemental Security Income (SSI) in the following categories: 4,764 aged, 430 blind, and 10,472 disabled. Between January 1981 and January 1988, Contra Costa County had recorded 179 AIDS cases, 72 of which had died - ranking ninth among all California counties in the number of cases.

Physically Handicapped

The physically handicapped experience housing problems due to the shortage of affordable housing and because of the design of most conventional housing. The handicapped tend to have diminished capacity to afford suitable housing due to fixed incomes, and in some cases, diminished employment capacity. Housing needs unique to these populations include handicapped accessibility, unit modifications for deaf or blind, and special social services. Group homes, apartment complexes with services, and single room occupancy hotels can provide housing to accommodate some of these unique needs. It is also important that units for disabled populations be located in areas near transportation and services to enable independent living.

The Fair Housing Amendments Act of 1988 established new requirements for handicapped accessibility in newly constructed multi-family (apartments and condominiums) projects of five or more units available for first occupancy after March 13, 1990. These requirements apply to ground floor units only, unless other floors are accessible by an elevator. This legislation expanded existing handicapped accessibility requirements to apply to condominiums, which is critical since such a high proportion are utilized as rentals, and also increased the number of units required to be accessible in a housing development to 20 percent of the total units. The specific design standards include barrier-free wheelchair accessibility; wheelchair accessible light switches, thermostats, and electrical outlets; and adaptability for grab bars in bathrooms. While this legislation could have great impact, in providing housing for the physically handicapped, it does not require that these units be rented to handicapped persons. Local jurisdictions can increase its effectiveness by encouraging handicapped occupancy in handicapped units.

The State Building Standards Commission also adopted similar new Title 24 handicapped regulations effective January 1990, which revised previous handicapped accessibility requirements.

The federal Fair Housing Amendments Act could also have a widespread impact on land use permit approvals for facilities for the developmentally, mentally and physically handicapped, including AIDS patients, by prohibiting special or conditional land use permit requirements for group homes or other developments for the handicapped. It also expanded federal fair housing protections prohibiting discrimination in sales or rentals to handicapped individuals. The Fair Housing Amendments Act also allows tenants to make handicapped structural modifications to a unit (such as grab bars) at the tenant's expense.

Mentally/Developmentally Disabled

Disabled populations also include those with mental and developmental disabilities and those recovering from alcohol and drug addictions. A 1984 United Way study estimated that 25 to 30 percent of the population nationwide experiences mental illness at some time in their lifetime, and 15 percent of the population is mentally ill at any given time. The County Health Department estimates that 2 percent of the County population is "persistently mentally disabled," of which half are treated outside of the public health system.

According to the California Department of Mental Health, the needs of the mentally disabled for long-term housing with services have increased dramatically, as 32,000 mentally disabled have been de-institutionalized statewide; 84 percent of the bedspaces that provided shelter for 5,000 individuals have been cut over the last few decades. There is an anticipated 50 percent cut in current facilities. At the same time, Contra Costa County Board and Care facilities for this population have declined in number. In Central Contra Costa County, for example, board and care facilities have declined from 20 to 6, according to Health Services. Health Services indicates that 333 beds are available for their estimated adult client population of 8,030 based on 1 percent of 1990 population statistics. In contrast, Phoenix Programs estimates that over 17,000 Contra Costa County adults are mentally ill. This population needs transitional and permanent housing with support services.

Information on the number of persons in the County with developmental disabilities is available from client case figures of the Regional Center of the East Bay (RCEB), which serves this population both in Contra Costa and Alameda Counties. As of August 1990, RCEB had 5,564 active clients, 500 more in the process of becoming clients, and 1,400 inactive client cases. In general, RCEB finds that one-third of its caseload consists of Contra Costa County residents. Thus, RCEB estimates that there are about 2,500 known individuals in Contra Costa County with developmental disabilities. In addition, there are 700 County residents living in the State Developmental Center system and those who are not counted by the Regional Center since they have not applied for services. The Contra Costa County Association for Retarded Citizens estimates that one in every ten families has a member with a developmental disability.

The nature of housing needs for this population is changing as social attitudes evolve. In past decades, the need for housing was either for larger congregate living facilities for children and adults, or six-bed group homes of the board-and-care variety. Now there is a dramatic change in housing needs. Children tend to live at home with their families until adulthood, receiving in-home support services and legally mandated educational programs through the public schools. For adults, the "supported life" model is emerging, in which individuals live in apartments, condos or shared single-family homes which they own or rent themselves, receiving support, training or program benefits. Such living situations are integrated environments in the community rather than agency-owned "facilities." The implication for housing is that developmentally disabled persons represent an additional population in close proximity to jobs, shopping and public transportation.

Substance Abusers

Recovering alcoholics and drug abusers have needs for permanent housing in sober living environments, in addition to short term detoxification and treatment centers. Studies of alcoholism incidence rates nationwide indicate incidence rates which range from 17 to 38 percent per capita.

According to the County Health Services Department, prior to the 1970s, alcoholics could have severe drinking problems and still have a place to live. When an alcoholic's behavior resulted in eviction, he could simply relocate to an inexpensive SRO "transient" hotel. During the 1970s, SRO hotels have been demolished or converted, forcing many of their residents onto the streets or into emergency shelters. At the same time, the Supreme Court's decriminalization of vagrancy has eliminated jails as a source of temporary quarters for skid row populations. In addition, the elimination of alcoholic wards in State hospitals has further reduced housing for this population. In Contra Costa County, the "M" Ward in County Hospital for alcoholics closed in 1975. While detoxification treatment programs have emerged in place of previous forms of treatment, the number of such facilities is inadequate to meet the need.

A 1986 Alameda County study indicates that 3.8 percent of Californians are drug abusers. Those recovering from chemical dependencies have needs similar to recovering alcoholics, with the important exception that little is known at this point about the treatment needs of those using new forms of highly addictive drugs such as "crack" and "ice." Currently, there are sober living houses to house 60 such clients, in addition to 176 beds in treatment centers.

LARGE FAMILIES

Large families (five or more family members) experience the greatest difficulty in securing affordable housing. Large families comprised 14.5 percent of the County population in 1980, with 25,674 families. Of this number, 2,395 families were determined to be low income with a need for housing assistance in current Housing Assistance Plans. The Housing Authority has indicated that large family rent subsidy recipients find it extremely difficult to secure a unit due to the lack of available rental units larger than 3 bedrooms, stricter tenant screening for large families, and discrimination against families with children in general. The Housing authority reports over 940

families with 3 and 4 bedroom housing requirements are on their rent-subsidy waiting list as of January, 1991.

FEMALE HEADED HOUSEHOLDS

Females make up a smaller proportion of the labor force, are generally much lower paid, are in households with children, and often have significant child care expenses, all of which reduce their ability to afford market rate housing. Most of the County Section 8 Certificate housing assistance programs have served households headed by females. In 1989, over 72 percent of Section 8 certificate holders assisted by the County Housing Authority were female-headed households.

Female-headed households comprise 24.3 percent of the total County households. Over one-quarter (27.1 percent) of those households include children. Statewide, female-headed households made up only 14.8 percent of all households in 1980. Thus, Contra Costa County has a comparatively large proportion of female-headed households. According to the California Statewide Housing Plan, the number of female-headed households Statewide increased 55 percent from 1970 to 1980.

Census data available on female-headed households in California indicate that such households are more than three times as likely to have incomes below poverty levels and are almost twice as likely to be ethnic minorities as other households. Statewide, 26.1 percent of all female-headed households in 1980 had incomes below the poverty level; this is compared to 8.7 percent of all family households below the poverty line. Statewide, 35 percent of all female-headed households with children in 1980 were minority (non-white populations), while minority households only made up 19 percent of all households. According to the California Statewide Housing Plan, female-headed households also experience high rates of overcrowding, pay a high percentage of their incomes for housing, and have predominantly very low and low incomes.

Domestic violence and divorce frequently result in sudden displacement of women and their children, and lead to the formation of female-headed households. These adverse conditions, along with the generally lower income status of these families, put female-headed households at a high risk of homelessness. These households need emergency shelter and transitional facilities with services, as well as permanent housing affordable to very low and low income households. The

Battered Women's Alternatives assistance group reports that it received approximately 800 requests for shelter in 1989 above their capacity to respond. In the same time period, 603 battered women were unable to obtain transitional shelter.

FARMWORKERS

According to State Employment Development Department (EDD) estimates for 1987 and 1988, regarding agricultural employment in Contra Costa County, the number of year-round farmworkers has remained stable, while the number of seasonal farmworkers has declined. Farmworkers can be divided into two categories for the purpose of examining housing needs. Regular farmworkers are defined by EDD as those working 150 or more days per year for the same employer. Seasonal/migrant farmworkers work less than 150 days per year for the same employer and sometimes travel from one area to another for employment. EDD estimates indicate that in 1988 Contra Costa County had 230 (annual average) regular farmworkers and 310 local seasonal/migrant farmworkers, compared to 220 regular and 500 seasonal farmworkers in 1982/1983. The State Department of Housing and Community Development reports eight registered private farmworker camps within Contra Costa County in June of 1989, which are capable of housing 218 workers. Sixteen additional camps were inactive, with one camp permit pending. These facilities are inadequate to serve the number of farmworkers in Contra Costa County.

EDD statistics on the number of farmworkers in August of 1989 during peak agricultural activity indicated that the numbers have continued to decline. Two hundred and fifty regular farmworkers and 460 seasonal farmworkers, for a total of 710 workers, were reported compared to 760 farmworkers reported in August of 1987 and 1988. EDD staff, however, suggests that farmworkers are under-reported by 300 percent. On the other hand, as undocumented workers gain legal status pursuant to the Immigration Reform and Control Act of 1986, they may increasingly leave farm labor to work in other employment sectors.

A 1988 State Department of Housing and Community Development (HCD) study, Migrant Farmworker Housing in California, found seriously substandard housing conditions for farmworkers including serious dilapidation, contamination of water supplies, health hazards related to sewage disposal and lack of plumbing, sanitary facilities, and adequate heating. Farmworkers tend to have very low incomes and experience housing problems resulting from a shortage of affordable units,

overcrowding and substandard conditions in their housing, and homelessness. They continue to need affordable rental and homeowner units, as well as homeless facilities, in East County.

Policies in the Open Space Element of this General Plan also address preservation of agriculture and the provision of farmworker housing in agricultural areas (Policies 8-29 through 8-49).

6.6 HOMELESSNESS

HOMELESS POPULATIONS

Homelessness has become increasingly visible in Contra Costa County and is expected to increase. A regional homelessness organization estimates that homelessness is increasing at 25 percent a year. In 1987, the Contra Costa County's Office on Homelessness estimated that there were 5,000 to 6,000 homeless persons in the County, 3,850 of which were in families, including 2,750 children. In the 1989/90 fiscal year, the County assisted 6,160 homeless families through the AFDC Homeless Assistance Program. The homeless population is difficult to count because the population is so heterogenous. Many homeless do not want to be identified, and many homeless do not want, or are unable, to use homeless shelters or services. As stated in the State Comprehensive Homeless Assistance Plan:

"Many homeless persons (for example, the chronically mentally ill) are not able to cope with the impersonal nature and regimen associated with shelter facilities. Many fear the confinement of a shelter facility after having spent a portion of their lives in institutions. In addition, elderly and handicapped persons often shun the shelters because they fear the younger, more predatory homeless who frequent the shelters. Thus, on any given night, a significant number of the homeless will not be found in the shelters."

Others of the "hidden homeless" are those who don't receive any support services or those who are doubling-up with friends or family. With so much of the homeless population unreachable, it is hard to draw an accurate profile of the homeless population. Many profiles of the homeless population are actually profiles of only the small portion that utilizes emergency shelters. These points need to be kept in mind when reviewing data about shelter populations.

Besides the homeless shelters, homeless people can be found in police station lobbies, emergency rooms of hospitals, camp sites, parked cars, all-night movie theaters, bus stations, airport terminals, hallways, alleys, along river banks, abandoned buildings, and caves.

Statewide estimates of homelessness include the HCD estimate of 0.3 percent of the population, with the highest concentrations assumed to be in Los Angeles and the Bay Area, and the State Health and Welfare Agency's estimate of 0.3759 percent of the population, not including undocumented workers.

The Office of Homelessness and County human service organizations completed a survey of 1,293 local homeless people in February 1987. Results indicated that 77 percent of the County's homeless in contact with one or more service providers were turned away from housing by the participating organizations and remained unsheltered. From the responding 1,035 County homeless who articulated their shelter needs, 70 percent indicated they had homeless families with children, 18 percent were single men, 8 percent were single women, 3 percent were childless couples, and 1 percent were of unknown family composition. A January 10, 1989 survey of homeless single adults staying at the Richmond Armory, as part of the Winter Relief Program, indicated that very few of the clients were chronically homeless - less than 10 percent had been homeless for a year or more. More accurate information may be available in 1992, when 1990 Census data are released.

A homeless person is defined as anyone without an owned, leased, rented, or shared regular domicile. This would include homeless persons or families occupying emergency shelters, transitional housing facilities, and temporary treatment facilities for drug/alcohol recovery and mental disabilities; living on the streets or in cars; or staying temporarily with friends or family.

Those at risk of homelessness must also be taken into account in assessing housing needs. People at risk would include those below the poverty level or with low or marginal incomes combined with few assets and those who may lose housing and be unable to regain it if their circumstances suddenly change.

Since the mid-1960s, the ranks of people without homes has steadily increased and has expanded from primarily single males with alcohol problems to include families, single women, the elderly and runaway youth. Nearly all ethnic and cultural groups are included among homeless populations. Homelessness occurs in all geographic areas in the County.

The following describes the various subpopulations of the homeless and their housing needs:

Families with Children

One- or two-parent families with children comprise the largest percentage of the County's surveyed homeless and are increasing at a faster rate than other homeless populations. A 1988 Public Advocates report, Homelessness Programs in the San Francisco Bay Area, estimates that 45 percent of the California shelter population are children. According to a Homebase report, 45 percent of shelter residents are in families and 35 percent are children. Homebase estimates that, as of June 1989, based on homeless families receiving assistance through AFDC, there were 9,990 homeless individuals in families in the County, not including homeless single adults. Homeless families' needs for affordable family housing; child care; job skills training; drug and alcohol recovery programs; food; and medical care are acute. To serve the needs of families with children, these services should be integrated with appropriate emergency shelter and transitional housing facilities.

Single Men and Women

Single men and women comprise the next largest group of County homeless. Members of this population are often unemployed or underemployed, sometimes with drug or alcohol addictions, and health or mental health problems. Single homeless women are particularly vulnerable to crime. Single women have comprised 10 to 15 percent of the single homeless population in the County's National Guard armories. This is consistent with the State Comprehensive Homeless Assistance Plan (CHAP) estimate that women comprise 10 percent of the California homeless population. The State CHAP, however, also suggests that 90 percent of the single homeless female population is mentally disabled. Two National Guard facilities have provided emergency shelter for singles during the winter months. The County is developing year-round shelters with support services. Pursuit of a number of different shelter proposals has been stymied by neighborhood groups and local jurisdictions opposed to homeless facilities in their areas. The County has established a modular facility for 56 single adults on a County-owned site in North Richmond, as well as a 40-bed facility for families and women.

Runaway or Abandoned Youths

The State CHAP estimates that 5 to 10 percent of the homeless statewide are runaway youths. Homeless children, especially subject to the deprivations of the streets and vulnerable to physical

and sexual abuse, need not only housing, but extensive emotional and social support. One shelter with seven beds exists in the County; the facility is forced to turn away juveniles daily because of lack of space.

Elderly

A 1989 Homebase report estimates that 5 percent of shelter residents are elderly, 75 percent of whom are women. Homeless elderly and near-elderly, unable to house and feed themselves on subsistence-level fixed incomes, are in need of permanent affordable housing, as well as health and other support services. Elderly are currently aided by some County service programs and by the same motel vouchers and food pantries which assist other homeless populations. Transitional housing, SROs and shared housing programs could provide permanent and semi-permanent assistance to the elderly.

Victims of Domestic Violence

While only one battered women's shelter exists in the County, a new transitional facility has been rehabilitated. Victims of domestic violence desperately need skills training for economic freedom from their batterers, along with emergency food, medical care and other support services. The battered women's shelter provides excellent service to domestic violence victims; however, it must also turn away persons in crisis due to lack of space. The operator of these facilities has identified the most immediate need for their clients as drug and alcohol recovery programs, in addition to additional shelter and transitional housing capacity.

Mentally Disabled

Both the State CHAP and the Public Advocates report estimate that 25 to 30 percent of the homeless population is mentally disabled. A 1989 Homebase report estimates that 20 percent of the shelter population in California is mentally ill. The same report indicates that 30 percent of all Americans suffers from serious mental illness at some point in their lives. Mentally disabled homeless in Contra Costa County have often been compelled to seek assistance in other Counties due to lack of services. Mentally disabled homeless lack the resources to acquire permanent housing and their mental disabilities can be exacerbated by homeless conditions. A facility for 20 single mentally disabled people provides shelter for the County's homeless.

Physically Disabled

Physically disabled homeless, often with severe medical conditions or mobility problems that preclude them from earning a liveable wage or finding suitable housing, are in extreme crisis when forced to live on the streets. The 1988 National Survey of Shelters for the Homeless reported that 11 percent of sheltered individuals had physical disabilities. The physically disabled need shelter and housing which is handicapped accessible.

Alcohol and Substance Abusers

The 1989 Homebase report estimates that 23 percent of shelter residents are alcohol or substance abusers. The State Department of Alcohol and Drug Programs estimates that 15 to 25 percent of the homeless are alcoholics statewide. Since there is a great deal of overlap in the substance abuse and mentally disabled populations, HUD's estimate that as high as 50 percent of the homeless are disabled by mental illness or substance abuse.

Individuals addicted to drugs or alcohol, who have made the very difficult decision to recover from their chemical dependency, confront tremendous obstacles to continued sobriety when they return to the community, often to the same environment that supported their addiction. With safe and supportive housing, these individuals would be better able to stay in their own homes and remain productive members of their community. These homeless persons are currently turned away from services or put on long waiting lists, partially due to the fact that there are not enough programs and that supportive housing is not available for graduates of the programs. There is a need for housing facilities which support sobriety.

Veterans

The 1989 Homebase and the Public Advocates' reports estimate that veterans, who make up only 11 percent of the population, make up 39 percent of the homeless population. Studies of Los Angeles and Bay Area homeless populations reported that approximately one-third were veterans, according to the State CHAP.

Veterans are often physically and mentally disabled while suffering employment problems. As with other homeless in the County, they receive services from a number of different providers and from

the Veteran's Hospital. A comprehensive housing and service program is needed, however, for one-stop care.

Immigrants

The immigrant population is the least likely to request assistance from a public agency and more likely to struggle on its own to secure safe, low-cost housing. Language and cultural differences present barriers to service. Currently, immigrants to the County are assisted by food pantries, the Center for New Americans, motel vouchers, and the County's existing shelter programs. Assistance is found in a variety of separate locations but the lack of transportation, services, and housing presents further impediments to self-sufficiency.

AIDS Victims

New studies have found that startling numbers of homeless people have tested positive for the HIV virus. People living with AIDS have unique needs for hospice and semi-independent living situations during terminal illnesses.

Employed

According to a Homebase report, 23 percent of the homeless nationwide have full or part-time jobs. A nationwide study of Traveler's Aid residents found that 44 percent attributed job loss as the immediate cause of their homelessness and also that 37 percent of homeless mothers and 59 percent of homeless fathers had been employed within the previous three months. According to Shelter, Inc.'s log of homeless services requests, 61 percent are employed, 30 percent are on public assistance, and 9 percent are unemployed.

CAUSES OF HOMELESSNESS

In Contra Costa County, no single factor has caused the dramatic rise in homeless citizens. Rather, a number of interrelated factors combine to contribute to this problem.

Low Cost and Affordable Housing Unit Shortage

Between 1987 and 1989, the Contra Costa County Homelessness Task Force and Community Homeless Action Resource Team (CHART) submitted reports to the Board of Supervisors

outlining the crisis in affordable housing and possible solutions. Both groups recognized that the single biggest factor contributing to the homeless problem is the County's lack of decent and safe housing affordable to lower income families and individuals.

Increasing Poverty

Due to lack of financial reserves and/or low income levels, many are unable to deal with sudden financial crises such as medical emergencies, theft, eviction, or job lay-offs. According to a Homebase report, the number of wage earners earning less than poverty level wages has increased to 34.2 percent in 1988. In 1989, full-time minimum wage employment put a family of three \$2,000 below the poverty line.

Unemployment/Underemployment

The State CHAP points out a correlation between the number of people seeking emergency shelter and high unemployment rate. Unemployment seems to be a critical factor leading to homelessness primarily in those situations where a family/individual situation is already marginal and loss of a job moves the situation to a crisis. Those people affected generally have limited resources, little or no savings, few skills necessary to obtain available help from public and private agencies and minimal marketable job skills.

Studies of shelter residents in Bay Area counties have found that the portrayal of the homeless as "Chronic unemployables" is inaccurate. According to a 1989 Homebase report, approximately a quarter of homeless adults nationwide are employed. For those who are underemployed, or employed at a minimal wage level, crises such as medical emergencies or divorce can result in homelessness if financial resources are not available.

Deinstitutionalization of the Mentally Ill

In the last two decades, the California State mental hospital system has been dismantled with few alternative resources in place to provide services to the population affected. In California, State hospital bedspaces were decreased from 37,000 to 5,000 between 1960 and 1984. While State deinstitutionalization was intended to be replaced by community-based care, little or no State and federal funds have been allocated to local governments to serve these citizens. Lack of suitable shelter arrangements and treatment resources have left the chronically mentally ill homeless.

Family Instability

Increased divorce rates, child and spouse abuse, and geographic mobility have contributed to increased social isolation and poverty. More female headed households live in poverty than ever before. Social support systems provided by extended families and friends are often unavailable.

Personal Crises

In a number of cases, personal crises precipitate homelessness. Examples include domestic violence, marital separation/divorce, running away from home, fire, illness, death in the family, etc. Often, people who are homeless due to personal crises are able to secure temporary and/or permanent housing once their crisis is resolved. However, personal crises tend to exacerbate drug or alcohol problems, leading to a longer term homeless problem.

Alcohol and Drug Use

Alcohol and drug use has become increasingly prominent among homeless populations as it has in the general population. Alcohol and drug use contributes to homelessness as limited financial resources are diverted from basic needs and as typical support systems (family, friends, and neighbors) are withdrawn.

Unavailable Health Care

According to a United Way report, for people living in the lower income brackets, decent medical care is not always accessible and affordable. Living without health insurance can start an economic spiral ending in homelessness. In California, there are 5.2 million non-elderly people without insurance.

COMPREHENSIVE SOLUTIONS TO HOMELESSNESS

The County Board of Supervisors established the Task Force on Homelessness in 1985, which evolved into CHART, made up of representatives of homeless service providers, community non-profit agencies, key County departments, cities, religious organizations, homeless advocates, and private individuals.

CHART has since evolved into a more formally recognized organization, the Homeless Advisory Committee, which continues to make recommendations to the County Board of Supervisors on homelessness issues. A network of homeless service providers has also developed.

CHART functioned as a goal-setting body charged with the responsibility for:

- o Defining, evaluating and quantifying the County's homeless population;
- o Studying the causes of homelessness;
- o Recommending actions to alleviate the homeless condition;
- o Identifying resources to reduce and potentially eliminate the causes of homelessness;
- o Establishing a work plan to meet these goals; and
- o Working to implement the findings, recommendations, and work plan.

CHART greatly improved communication and cooperation among agencies serving the homeless, along with facilitating the development of long-range strategies to solve the homeless problem. On April 18, 1989, CHART presented a report to the County Board of Supervisors as an update to a July 14, 1987 report on the homeless situation in the County. The report recognized that the single greatest factor contributing to the homeless problem is the lack of decent and safe housing affordable to lower income families and individuals in the County and that efforts to address the need for permanent affordable housing are a critical piece of the homeless assistance package.

The report made the following recommendations to the County and its cities:

- o affordable housing policies and plans within Housing Elements, Housing Assistance Plans, Comprehensive Housing Assistance Plans, and local ordinances to preserve, rehabilitate, and develop affordable housing;
- o lobbying for increase federal and State funding for new housing production and rental assistance programs;
- o actions to address the potential loss of existing low income rental units;
- o development of local Affordable Housing Trust Funds;
- o coordination and expansion of rental assistance programs for homeless or potentially homeless in need of move-in costs, rental arrears payments, or mortgage default prevention assistance;

- o development of housing with support services for homeless families and special need populations;
- o expansion of shared housing programs;
- o preservation and development of SRO hotels; and
- o legislative advocacy for affordable housing policy and funding.

Table 6-13 presents the various shelter facilities which provide emergency shelter and transitional housing for the homeless in Contra Costa County. This table does not indicate the number of bedspaces available to the homeless since many of the facilities listed primarily serve other clientele.

The County's Social Services Department developed a preliminary Strategic Plan on Homelessness in November 1989. It identified the most immediate unmet need as that for emergency shelters. The highest priority intermediate needs were identified as alcohol/drug/mental health treatment services and transitional facilities; job development and employment training; and transitional housing for victims of domestic violence with alcohol/substance abuse problems. The creation of new affordable housing units was identified as the highest long-range priority for addressing the needs of the homeless.

A number of service providers, non-profit development corporations, and public agencies provide a full range of services for the homeless. These services include health care; job training; drug and alcohol recovery; mental health care; housing assistance; money management; childcare; emergency shelter; and transitional and permanent housing for special needs populations. However, available resources remain unable to meet the demand for services and facilities serving the homeless.

TABLE 6-13
FACILITIES AVAILABLE TO SERVE HOMELESS POPULATIONS
IN CONTRA COSTA COUNTY
(JUNE 1990)

<u>Name & Address</u>	<u>Sponsor</u>	<u>Phone #</u>	<u>Contact Person</u>	<u>Location</u>	<u># of Beds</u>	<u>Length of Stay</u>	<u>Population Served</u>
EMERGENCY SHELTER							
Battered Women's Shelter (Undis- closed location)	Battered Women's Alternatives	930-8300	Rollie Mullin	CCC	25	4 weeks average	Battered women and children
Christian Believer's 250 4th Street Richmond, CA	Christian Believers	231-0772	Gloria Yancy	West	20		Christian men and women in crisis
County Shelter Brookside Drive North Richmond, CA (Temporary facility)	Contra Costa County			West	40		Single men and women
East County Shelter 1401 4th Street Antioch, CA 94509	Phoenix Programs	778-3720	Rich Rubio	East	20	30 days	Mentally disabled men and women
East County Community Detox 500 School Street Pittsburg, CA 94565		458-1616	Michael Siems	East	7 men 4 women	3-7 days	Alcohol detox and recovery

TABLE 13 (Continued)

<u>Name & Address</u>	<u>Sponsor</u>	<u>Phone #</u>	<u>Contact Person</u>	<u>Location</u>	<u># of Beds</u>	<u>Length of Stay</u>	<u>Population Served</u>
Halloman/Faverson New Way Center 208 23rd Street Richmond, CA 94801	Richmond Neighborhood House	233-1276	Steve Mitchell	West	3 women 14 men	5 days	Substance abuse men and women
Nierika House 1959/67 Solano Ave. Concord, CA 94520	Phoenix Programs	676-9768	M. Grissett	Central	12	30 days	Mentally ill men and women in crisis
Richmond Rescue Mission 200 MacDonald Avenue Richmond, CA 94802		233-1516	Malcolm Lee	West	238	1-6 weeks	Christian men, women and families
Shennum Center 2090 Commerce Avenue Concord, CA 94520		676-2580	Pat Walters	Central	20	3-5 days	Alcohol detox men and women

TRANSITIONAL HOUSING

Clean and Sober House San Pablo	Phoenix Programs	232-7633	Adrian Brown	West	6	1-2 years	Mentally disabled adults in drug and alcohol recovery
Diablo Valley Ranch 11540 Marsh Creek Clayton, CA 94517	BiBett	672-5700	Marsha Stover	Central	70	30-90 days; 5 mo. max.	Recovering substance abuse men
Discovery House I 904 Mellus Street Martinez, CA 94553		229-4365	Larry Zucchi	Central	19	6 mo. to 1 year	Recovering substance abuse men

TABLE 6-13 (Continued)

<u>Name & Address</u>	<u>Sponsor</u>	<u>Phone #</u>	<u>Contact Person</u>	<u>Location</u>	<u># of Beds</u>	<u>Length of Stay</u>	<u>Population Served</u>
Discovery House II 4639 Pacheco Blvd. Martinez, CA 94553		229-4212	Adriane Bento	Central	21	1 year	Recovering substance abuse women
East County Community Detox 500 School Street Pittsburg, CA 94565		458-1616	Michael Siems	East	14 women	30-90 days	Alcohol recovery
Family Support Center (Undisclosed location)	Volunteers of America	233-1611	Leslie Gallen	West	36	90 days	Families and single women
Mettha Vihara and 607 Key Blvd. Richmond, CA 94801		236-0908	Rev. Suhita Dharma	West	6	No limit	ARC or AIDS men women
New Dawn 1515 24th Street Richmond, CA	Tri-Counties Women Recovery Services	236-3134	Albione Becnel	West	6	1 year	Alcohol recovery women and children
Nyumba Chuki 3215/3221 Nevin Ave. Richmond, CA 94806	Phoenix Programs	232-7633	Lucas Daumont	West	12	18 mo.	Mentally disabled and substance abuse recovering men and women
Ozanam Center 2931 Prospect St. Concord, CA 94520	BiBett	676-4840	Jonah Powell	Central	17	1 yr. max.	Substance abuse recovering women

TABLE 6-13 (Continued)

<u>Name & Address</u>	<u>Sponsor</u>	<u>Phone #</u>	<u>Contact Person</u>	<u>Location</u>	<u># of Beds</u>	<u>Length of Stay</u>	<u>Population Served</u>
Pittsburg Family Ctr. 84 W. 6th Street Pittsburg, CA 94565	Shelter, Inc.	439-8559	Kitty Duma	East	37	3-6 mo.	Families
Rectory 1901 Church Lane San Pablo, CA 94806	Tri-Counties Women's Recovery Services	236-3134	Albione Becnel	West	10 women 5 children	9 months	Alcohol recovering women and their children
Richmond Transitional 170 21st Street Richmond, CA 94801	City of Richmond	231-0772	Gloria Yancy	West	24		Families in Job Training Partnership
Rubicon Apartments 1709 San Joaquin Richmond, CA 94804	Rubicon Programs	528-2119	Helen Branham	West	12	9-18 months	Mentally disabled single adults
San Joaquin Apartments Richmond					17 units (½ transitional, ½ permanent)		Mentally disabled single adults
Satellite House Concord, CA	Phoenix Programs	827-8681	Pat Herman	Central	5	1-2 years	Mentally disabled
Shiloh House (Undisclosed location)	Richmond Rescue Mission	233-5333	Malcolm Lee	Central	7	9 months	Christian Families
Sunrise House 135 Mason Circle #D Concord, CA 94520		825-7049	Don Travins	Central	6 women 24 men	90 days	Substance abuse recovering men and women

TABLE 6-13 (Continued)

<u>Name & Address</u>	<u>Sponsor</u>	<u>Phone #</u>	<u>Contact Person</u>	<u>Location</u>	<u># of Beds</u>	<u>Length of Stay</u>	<u>Population Served</u>
PERMANENT HOUSING							
Bellevue Hotel 331 MacDonald Ave. Richmond, CA 94802	Christian Believers	231-0772	Gloria Yancy	West	26		Men and women
Community Living Proj. 1720 Clayton Road Concord, CA 94521	Phoenix Programs	827-2683	Pat Herman	Central	11 1-bed- room apts.	No limit	Mentally disabled men and women
Rubicon Homes 970 13th Street Richmond, CA 94804	Rubicon	235-1516	Helen Branham	West	10	No limit	Mentally disabled
San Joaquin Apartments Richmond					17 units (½ transitional, ½ permanent)		Mentally disabled single adults

Note: This table does not represent the number of bedspaces available to the homeless, as most of the facilities serve a variety of populations.

SITES FOR HOMELESS FACILITIES

The California Government Code was amended in 1984 and 1986 to prohibit a local jurisdiction from discriminatory practices inhibiting the development of emergency shelters for the homeless. The amendments also direct local governments, along with the State government, to identify the numbers of homeless and causes of homelessness, and devise comprehensive solutions to the problem of homelessness (Section 65008 and 65583). Cities and counties are also required to identify adequate sites for emergency shelters and transitional housing available through appropriate zoning and development standards.

The HCD has given some guidance in implementing this legislation. Options identified by HCD include:

- o programs to increase capacity of existing shelters;
- o identification of suitable structures such as warehouses, schools, or hotels that could be used as, or converted to, shelters;
- o identification of specific sites which have the potential for shelter or transitional housing development during the Housing Element planning period;
- o designation of areas where shelters or transitional housing are permitted; or
- o designation of zone districts in which shelters and transitional housing are permitted uses.

The County has contributed funds to increase the capacity of existing shelters as well as developing new shelter facilities (see Table 6-14). The County has developed site criteria and has been actively involved in site searches for locations for emergency shelter facilities in West, Central, and East County. The County is developing two homeless facilities in County unincorporated areas with County funds to provide year round shelter with services — one to serve 56 single adults in North Richmond and one to provide 40 beds of emergency shelter and transitional housing for families and women. An additional five units of public housing is being set aside for homeless families and individuals.

Emergency shelter facilities are permitted uses in almost all residential zone districts and in other districts such as commercial, retail and industrial zones, as indicated in Table 6-15. Transitional facilities, on the other hand, would be permitted in any zone district that permits residential devel-

TABLE 6-14
COUNTY-ASSISTED EMERGENCY SHELTER AND TRANSITIONAL HOUSING
FACILITIES FOR HOMELESS POPULATIONS
(MAY 1990)

<u>Project Name/Location</u>	<u>Sponsor</u>	<u>Type</u>	<u>Number of Spaces</u>	<u>\$ Source</u>
Antioch Shelter	Phoenix Programs	Mentally Handicapped	20	ESG, CDBG
Family Support Center, Richmond	Volunteers of America	Families, women	36	ESG, HBTF, CDBG, HUD
Battered Women's Shelter Central County	Battered Women's Alternatives	Battered women	25	ESG ,ESP, CDBG
Young Mothers, Hercules	Young Mothers	Pregnant women	6	ESG, CSBG,
Shell Ave. Shelter Uninc. Martinez	County	Families, women	40	DSS, HBTF, HUD, ESP
Winter Relief Programs, National Guard Armories	VOA, Shelter, Inc., St. Vincent dePaul	Singles	250	HBTF, GF
Las Trampas, Lafayette	Las Trampas	Developmentally Disabled	6	CDBG
Family Center, Pittsburg	Shelter, Inc.	Families	37	CDBG, HUD, HBTF
Transitional Housing	Battered Women's Alternatives	Battered women with children	14	CDBG, HBTF
The Rectory San Pablo	Tri Counties Women's Recovery	Alcoholic women	15	CDBG
Modular Shelter, North Richmond	County	Singles	56	CDBG, ESG, ESP
Public Housing, North Richmond	CCC Housing Authority	Families, singles	24	HA, HUD
Group Home, Central County	Housing for Inde- pendent People	Mentally disabled	6	CDBG
Alcohol Residential Recovery Center	Bibett	Alcohol recovery	57	CDBG
Winter Relief Program, Armories	County	Singles (winter only)	Up to 250	HBTF, DSS

TABLE 6-14 (Continued)

Key: CDBG = County Community Development Block Grants
 CSBG = County Community Services Block Grants
 ESG = federal Emergency Shelter Grants
 ESP = state Emergency Shelter Program funds
 DSS = County Department of Social Services
 GF = County General Fund
 HA = County Housing Authority
 HBTF = County Housing Bond Trust Fund
 HUD = U. S. Department of Housing and Urban Development.

Source: Contra Costa County Community Development Department.

TABLE 6-15
 ZONE DISTRICTS PERMITTING EMERGENCY SHELTER
 FACILITIES IN COUNTY UNINCORPORATED AREAS

	<u>Without Land Use Permit</u>	<u>With Land Use Permit</u>	<u>With Final Development Plan</u>
Single Family Residential			
R-6		X	
R-7		X	
R-10		X	
R-12		X	
R-15		X	
R-20		X	
R-40		X	
Two Family Residential, D-1		X	
Multiple Family Residential		X	
M-29		X	
M-17		X	
M-12		X	
M-9		X	
M-6		X	
Water Recreational, F-1		X	
Light Agricultural, A-1		X	
General Agricultural, A-2		X	
Heavy Agricultural, A-3		X	
Limited Office, O-1		X	
Administrative Office, A-O		X	
Interchange Transitional	X		
Retail Business, R-B	X		
General Commercial, C	X		
Light Industrial, L-I		X	
Heavy Industrial, H-1		X	
Unrestricted, U	X		
Planned Unit District, P-1			X

Note: Emergency shelter is permitted as an eleemosynary use, defined as uses related to, devoted to, or supported by charity. Applications for land use approval of uses permitted in a zone district would require a Development Plan, even if a Land Use Permit is not required.

opment, because State law does not permit local jurisdictions to differentiate between different types of occupants in the land use permitting process. Public hearings would be required, however, for proposed homeless facilities if community concerns are expected.

6.7 LAND USE INVENTORY

Table 6-16 shows a land use inventory of vacant and undeveloped sites for residential development in Contra Costa County as of September 1990. Figures 6-2 through 6-6 illustrate the land use inventory of vacant and undeveloped residential sites in unincorporated Contra Costa County.

6.8 HOUSING CONSTRAINTS AND CONCERNS

Several factors combine to constrain the supply and variety of housing in Contra Costa County and the Bay Area. Some are physical: while the water bodies, ridge-and-valley topography, and Mediterranean-type climate make the Bay Area a desirable place to live, such topography also requires expensive public works projects and limits the amount of easily developable land. Some are institutional: contemporary building practices are written into such diverse codes as government regulations, lending institution requirements, and union work rules. The Tax Reform Act of 1986 has made investment in multifamily housing a less attractive investment resulting in reduced multifamily production. While the impacts of the savings and loan bailout legislation is not yet fully known, it is expected to discourage multifamily building activity as well, by reducing the availability of construction financing. Some are attitudinal: the public in Contra Costa County is only now beginning to accept higher-density development but would generally reject radically different forms of mass-produced housing. Some are political: the electorate's vote to add Article 34 to the State Constitution in 1950 limited local governments' options for providing public housing, while their approval of Proposition 13 in 1978 both reduced the flexibility of the housing market by according tax advantages to long-held properties and resulted in the costs of capital facilities necessary to support new housing being shifted from the community to the buyers and tenants of new housing. Some reflect the state of the economy: a range of costs from interest rates to the costs of materials and labor are set by the national and regional economy.

The various constraints are not all of equal importance, particularly in a short or intermediate range time period. The important constraints, however, are economic and financial program constraints. One, the cost of money (interest rates), transcends all others. Lower interest rates on building

TABLE 6-16

VACANT AND UNDEVELOPED RESIDENTIAL SITES
IN UNINCORPORATED CONTRA COSTA COUNTY

This listing shows those lands which are designated for residential development. Among this listing are approved and proposed projects (APs and PPs), not yet built, and vacant lands (FP3s) which have a residential land use designation. The entries in parentheses numbers have been arbitrarily assigned for the purposes of this exercise and do not relate to similar transaction numbers in the Countywide database.

<u>Project Identifier</u>	<u>Traffic Zone</u>	<u>Jurisdiction</u>	<u>Land Use</u>	<u>Trans. Type</u>	<u>Gross Acres</u>	<u>Density or FAR</u>	<u>Housing Units</u>	<u>Trans. No.</u>
Ellis High/CCC Building	22	Unicorp W/C	MFL	FP3	2	8.8	17	1453
Ellis High/CCC Building	22	Unicorp W/C	SFH	FP3	1	5.25	5	1454
E. Richmond Heights	40	Unicorp W/C	SFL	FP3	12	2.25	27	1461
E. Richmond Heights	41	Unicorp W/C	SFL	FP3	4	2.25	9	1462
San Pablo Dam Road	42	Unicorp W/C	SFH	FP3	10	5.25	52	2223
San Pablo Dam Road	43	Unicorp W/C	MFH	FP3	8	21.6	172	1464
North Richmond Redevelopment	52	Unicorp W/C	SFH	FP3	26	5.25	138	2218
North Richmond Redevelopment	53	Unicorp W/C	SFH	FP3	84	5.25	441	2216
Hilltop	60	Unicorp W/C	MFL	FP3	2	8.8	17	1484
Hilltop	63	Unicorp W/C	MFL	FP3	36	8.8	316	1487
South Hilltop	66	Unicorp W/C	SFH	FP3	3	5.25	14	1490
Wildcat Canyon Park	67	Unicorp W/C	SFL	FP3	25	2.25	56	1491
San Pablo Dam Road	68	Unicorp W/C	MFL	FP3	5	8.8	44	2230
7-1 DGB deBlt	68	Unicorp W/C	SFH	FP3	1	5	5	1492
7-2 Clark Road	68	Unicorp W/C	SFH	FP3	65	5.6	364	1493
Park Glen Estates	68	Unicorp W/C	SFH	FP3	76	5.6	425	1494
San Pablo Dam Road	68	Unicorp W/C	SFL	FP3	75	2.4	180	1495

Table 6-16 (Continued)

<u>Project Identifier</u>	<u>Traffic Zone</u>	<u>Jurisdiction</u>	<u>Land Use</u>	<u>Trans. Type</u>	<u>Gross Acres</u>	<u>Density or FAR</u>	<u>Housing Units</u>	<u>Trans. No.</u>
San Pablo Dam Road	69	Unicorp W/C	SFH	FP3	27	5.25	141	1496
OLIVER/3016-89	70	CNTY/ES	C	BP	2.4			(5020)
Appian Way	70	Unicorp W/C	SFH	FP3	28	5.25	147	1497
7-1 Szopleray	72	Unicorp W/C	MFL	FP3	6	12	72	1498
Appian Way	72	Unicorp W/C	SFH	FP3	22	5.6	123	1499
Pinole Vista/Appian Way	73	Unicorp W/C	SFH	FP3	2	5.6	11	1501
San Pablo Dam Road	74	Unicorp W/C	MFL	FP3	5	8.8	44	2226
Salvation Army (3027-88)	74	CNTY/ES	MS	BP	1.15	43.5	50	(5021)
Santa Rita Road	74	Unicorp W/C	SFH	FP3	12	5.25	63	1502
INESS/7240	74	CNTY/ES	SM	AP	7.25	2.3	21	(5022)
WANG (3033-88)	75	CNTY/ES	MM	AP	2.2	10	22	(5023)
El Sobrante/Richmond	75	Unicorp W/C	SFH	FP3	28	5.6	156	1503
El Sobrante/Richmond	75	Unicorp W/C	SFL	FP3	63	2.4	151	1504
7-1 Mitey Mite	75	Unicorp W/C	SFM	FP3	8	4.5	36	1505
HPKINS/7248	75	CNTY/ES	SM	AP	1.188	5.1	6	(5024)
Appian/San Pablo Dam Road	76	Unicorp W/C	MFL	FP3	1	8.8	8	2232
El Sobrante	76	Unicorp W/C	SFH	FP3	2	5.25	10	1506
EMCM/3049-88	76	CNTY/ES	SM	AP	7	3	21	(5025)
TSAI/7082	79	CNTY/ES	MM	AP	1.87	12.8	24	(5026)
SAWHEY 3044-88	101	CNTY/MA	MV	AP	1	18	18	(5027)
3015-89	102	CNTY/RO	ML	AP	.69	20.29	14	(5028)
Morgan (3028-88)	104	CNTY/CR	SM	AP	10.96	2.1	23	(5029)
Crockett	105	Unicorp W/C	SFM	FP3	17	3.75	63	1541
Crockett	106	Unicorp W/C	SFM	FP3	5	0.75	3	1542

Table 6-16 (Continued)

<u>Project Identifier</u>	<u>Traffic Zone</u>	<u>Jurisdiction</u>	<u>Land Use</u>	<u>Trans. Type</u>	<u>Gross Acres</u>	<u>Density or FAR</u>	<u>Housing Units</u>	<u>Trans. No.</u>
BRASESCO/7006	106	CNTY/CR	SL	AP	2.88	2.1	6	(5030)
Port Costa	107	Unicorp W/C	SFH	FP3	2	5.25	10	1543
AGNELLOP 3035-88	108	CNTY/RO	MH	AP	.37	27	10	(5031)
Franklin Canyon	109	Unicorp W/C	SFVL	FP3	56	0.75	42	1547
Hassletine/Best (7091)	110	CNTY/MA	SVL	AP	235	0.27	47	(5032)
Alhambra Valley	111	Unicorp W/C	SFVL	FP3	11	0.75	8	1548
7-4 Schell et al. (6465)	112	Unicorp W/C	SFL	FP3	5	2	10	1549
7-3 Carriage Hills West	112	Unicorp W/C	SFL	FP3	135	2.333	314	1551
BELLECI/6999	115	CNTY/MA	SF	AP	79.062	0.1	7	(5033)
HRC/7238	115	CNTY/MA	SL	BP	10.090	1	10	(5034)
7-2 Syc. Const. (6796)	116	Unicorp W/C	SFL	FP3	10	2.7	27	1553
Reliez Valley Road	116	Unicorp W/C	SFVL	FP3	70	0.75	52	1554
MUCHLINSKI/7144	116	CNTY/PH	SL	AP	20	1.2	24	(5035)
General Plan Buildout	117	Unicorp W/C	SFVL	FP3	30	0.75	22	1555
7-1 Saddlehorn Ranch	117	Unicorp W/C	SFVL	FP3	53	0.509	36	1556
7-1 Kimmel	119	Unicorp W/C	SFL	FP3	26	1.115	28	1559
Reliez Valley	120	Unicorp W/C	SFVL	FP3	100	0.75	75	1560
Reliez Valley	121	Unicorp W/C	SFVL	FP3	44	0.75	33	1561
Franklin Hills	122	Unicorp W/C	SFVL	FP3	4	0.75	3	1562
RAWSKI/3014-89	129	CNTY/MA	CC	AP	--		50	(5036)
Pacheco Boulevard/Shell Avenue	129	Unicorp W/C	SFH	FP3	3	5.25	15	1569
Shell/Palm Avenue	130	Unicorp W/C	SFM	FP3	28	3.75	105	1571
CZIYLENZI/7391	134	CNTY/MA	ML	AP	1.630	5.5	9	(5037)
Acme/IT	134	Unicorp W/C	SFM	FP3	7	3.75	26	1573

Table 6-16 (Continued)

<u>Project Identifier</u>	<u>Traffic Zone</u>	<u>Jurisdiction</u>	<u>Land Use</u>	<u>Trans. Type</u>	<u>Gross Acres</u>	<u>Density or FAR</u>	<u>Housing Units</u>	<u>Trans. No.</u>
CZLYLENYI/7300	134	CNTY/MA	SH	AP	2.38	5.5	13	(5038)
Shell Oil	135	Unicorp W/C	SFM	FP3	5	3.8	19	1574
Vine Hill	136	Unicorp W/C	MFM	FP3	4	15.2	60	1577
Vine Hill	136	Unicorp W/C	SFH	FP3	1	5.25	5	1578
Vine Hill	136	Unicorp W/C	SFM	FP3	8	3.75	30	1579
John Muir Parkway	137	Unicorp W/C	MFM	FP3	6	15.2	91	1580
John Muir Parkway	137	Unicorp W/C	SFH	FP3	22	5.25	115	1581
GSL/7304	137	CNTY/MA	SH	BP	1.113	8.1	9	(5039)
7-1 Fig Tree Townhouses	138	Unicorp W/C	MFH	FP3	6	17.667	106	1582
CL Assoc. (7153)	138	CNTY/MA	ML	BP	2.43	8.79	16	(5040)
John Muir Parkway	138	Unicorp W/C	SFM	FP3	10	3.75	37	1583
7-3 Jim Snow	138	Unicorp W/C	SFM	FP3	3	4	12	1584
7-4 Souza (6959)	138	Unicorp W/C	SFM	FP3	4	3	12	1585
CL Assoc./Lindsay (7113)	138	CNTY/MA	SH	BP	7.5	5.51	31	(5041)
CASELTON/7230	138	CNTY/MA	SM	BP	5.99	2.8	17	(5042)
JENSEN/7322	138	CNTY/MA	SM	BP	2.03	3.45	7	(5043)
Pacheco Boulevard s/o ATSF	139	Unicorp W/C	MFL	FP3	10	8.8	88	2235
7-1 Botholz Townhouses	139	Unicorp W/C	MFM	FP3	1	11	11	1586
STREMEL/3020-89	139	CNTY/MA	SH	AP	6.16	4.4	27	(5044)
STREMEL/3020-89	139	CNTY/MA	SH	AP			16	(5045)
Central San/Blum Road	140	Unicorp W/C	SFM	FP3	7	3.75	26	1587
CC Country Club	144	Unicorp W/C	SFM	FP3	1	3.75	3	1594
7-1 Briar Rose	147	Unicorp W/C	SFL	FP3	30	1.633	48	1599
Alhambra/Reliez Valley	147	Unicorp W/C	SFL	FP3	27	2.25	60	1600

Table 6-16 (Continued)

Project Identifier	Traffic Zone	Jurisdiction	Land Use	Trans. Type	Gross Acres	Density or FAR	Housing Units	Trans. No.
7-2 D&M Development (6958)	149	Unicorp W/C	MFL	FP3	2	11	22	1602
7-1 RSB Co. (3006-86)	149	Unicorp W/C	MFM	FP3	3	14.667	44	1603
LOVING/7333	150	CNTY/PA	MM	BP			14	(5046)
Center Avenue/Chilpancing	150	Unicorp W/C	SFH	FP3	5	5.25	26	1604
Morello/Taylor Boulevard	154	Unicorp W/C	SFL	FP3	1	2.25	2	1605
7-1 Desco/Wayside Plaza	161	Unicorp W/C	MFM	FP3	10	20	200	1607
Park Regency GPA	161	Unicorp W/C	MFVH	FP3	11	82	902	2237
DESCO/3018-89	161	CNTY/PH	MS	AP	4.4	48	211	(5047)
UH/7001	161	CNTY/PH	MS	BP			892	(5048)
7-1 Davidon/Dalley	166	Unicorp W/C	SFM	FP3	18	3.833	68	1608
7-1 Pacific National	170	W. Pittsburg	MFH	FP3	14	21.6	302	1617
	170	W. Pittsburg	SFH	PP	22	5.5	121	(5049)
MORRISON/7178	171	CNTY/CD	SH	AP	3	5	15	(5050)
BELLECI/7027	171	CNTY/CD	SH	BP	5.26	4.2	22	(5051)
ISACKSON/7154	318	CNTY/WC	SL	AP	11.7	2.2	26	(5052)
HOLT/7099	323	CNTY/AL	SL	BP	4.28	1.4	6	(5053)
Walnut Boulevard	241	Unicorp W/C	SFH	FP3	2	5.25	10	1666
HASSELTINE/7097	242	CNTY/WC	SL	AP	4.1	1.45	8	(5054)
Perma-Built/Papettii (7146)	244	CNTY/WC	CC	AP	6.26	31.31	196	(5055)
Indian Valley	244	Unicorp W/C	SFL	FP3	37	2.25	83	1667
SCHURICHT/7168	244	CNTY/WC	SL	AP	6.34	0.45	6	(5056)
Indian Valley	245	Unicorp W/C	SFVL	FP3	5	0.75	3	1668
Castle Rock	248	Unicorp W/C	SFVL	FP3	35	0.75	26	1671
Lime Ridge	251	Unicorp W/C	SFL	FP3	4	2.25	9	1674

Table 6-16 (Continued)

<u>Project Identifier</u>	<u>Traffic Zone</u>	<u>Jurisdiction</u>	<u>Land Use</u>	<u>Trans. Type</u>	<u>Gross Acres</u>	<u>Density or FAR</u>	<u>Housing Units</u>	<u>Trans. No.</u>
Rancho Paraiso	251	Unicorp W/C	SFL	FP3	207	1.372	284	1675
Lime Ridge	251	Unicorp W/C	SFM	FP3	3	3.75	11	1676
SHURIGHT/7143	251	CNTY/WC	SL	AP	10		9	(5057)
Irvine (7110)	251	CNTY/WC	SL	AP	207	1.31	205	(5058)
Newhall Ranch	252	Unicorp W/C	SFH	FP3	192	5.25	1,008	1677
Pine Hollow	256	Unicorp W/C	SFH	FP3	21	5.25	110	1678
S. E. Clayton	265	Unicorp W/C	SFL	FP3	16	2.25	36	1693
post property/Alamo	269	Unicorp W/C	SFL	FP3	68	2.25	153	1694
South WC	270	Unicorp W/C	SFL	FP3	12	2.25	27	1695
BLACKBURN/7074	270	CNTY/WC	SL	AP	7.3		13	(5060)
South WC	271	Unicorp W/C	SFL	FP3	8	2.25	18	1696
STEDMAN/6934	271	CNTY/WC	SL	AP	13.06		23	(5061)
BLACKBURN/7075	271	CNTY/WC	SL	BP	8.05		14	(5062)
NW Alamo	273	Unicorp W/C	SFL	FP3	12	2.25	27	1698
WESTBROOK/7247	273	CNTY/WC	SL	BP	3.19		5	(5063)
Saranap/Castle Hill	274	Unicorp W/C	SFH	FP3	6	5.25	31	1699
Saranap/Castle Hill	274	Unicorp W/C	SFL	FP3	12	2.25	27	1700
Saranap/Castle Hill	274	Unicorp W/C	SFM	FP3	8	3.75	30	1701
SUN/7307	274	CNTY/WC	SL	AP	7.41		16	(5064)
ARTEK/7233	274	CNTY/WC	SL	AP	2.56		6	(5065)
3045-88/RD	277	CNTY/WC	O	BP	.311			(5066)
Saranap	277	Unicorp W/C	SFL	FP3	6	2.25	13	1706
7267	277	CNTY/WC	SV	AP	11.25		7	(5067)
Saranap	278	Unicorp W/C	MFH	FP3	1	21.6	21	1707

Table 6-16 (Continued)

<u>Project Identifier</u>	<u>Traffic Zone</u>	<u>Jurisdiction</u>	<u>Land Use</u>	<u>Trans. Type</u>	<u>Gross Acres</u>	<u>Density or FAR</u>	<u>Housing Units</u>	<u>Trans. No.</u>
Saranap	278	Unicorp W/C	SFH	FP3	7	5.25	36	1708
7-1 Rancho Laguna Canyon	292	Unicorp W/C	SFVL	FP3	213	0.3	63	1729
Canyon	301	Unicorp W/C	MFL	FP3	7	8.8	61	1743
Canyon	301	Unicorp W/C	SFL	FP3	126	2.25	283	1744
Gateway Valley	305	Unicorp W/C	MFL	FP3	28	10.714	299	1755
Gateway Valley	305	Unicorp W/C	SFM	FP3	60	5	300	1759
Tilden/El Toyonal	312	Unicorp W/C	SFL	FP3	31	2.25	69	1764
El Toyonal	313	Unicorp W/C	SFVL	FP3	60	0.75	45	1765
North Orinda	315	Unicorp W/C	SFVL	FP3	212	0.75	159	1768
Lafayette	316	Unicorp W/C	SFVL	FP3	180	0.75	135	1769
Alamo	317	Unicorp W/C	SFVL	FP3	35	0.75	26	1770
MAJORS/7171	317	CNTY/WC	SL	AP	7	1	7	(5068)
Alamo	318	Unicorp W/C	SFVL	FP3	15	0.75	11	1771
DEBOLT/7306	318	CNTY/WC	SL	BP	2	2.5	5	(5069)
Alamo	319	Unicorp W/C	SFVL	FP3	17	0.75	12	1772
Alamo	320	Unicorp W/C	SFVL	FP3	100	0.75	75	1774
Alamo	322	Unicorp W/C	SFVL	FP3	29	0.75	21	1775
Alamo	323	Unicorp W/C	SFL	FP3	11	2.25	24	1776
Alamo	323	Unicorp W/C	SFVL	FP3	135	0.75	101	1777
HSC/7063	323	CNTY/AL	SL	BP	10.21	2.06	21	(5070)
J. Moore's project	324	Unicorp W/C	SFL	FP3	47	0.95	44	2207
Castle Rock	325	Unicorp W/C	SFL	FP3	47	2.25	105	1779
Alamo	326	Unicorp W/C	SFL	FP3	16	2.25	36	1781
Alamo	326	Unicorp W/C	SFVL	FP3	100	0.75	75	1782

Table 6-16 (Continued)

<u>Project Identifier</u>	<u>Traffic Zone</u>	<u>Jurisdiction</u>	<u>Land Use</u>	<u>Trans. Type</u>	<u>Gross Acres</u>	<u>Density or FAR</u>	<u>Housing Units</u>	<u>Trans. No.</u>
Diablo	331	Unicorp W/C	SFL	FP3	72	2.25	162	1787
MURPHY/7109	331	CNTY/AL	SL	AP	8.73	0.69	6	(5072)
Alamo	332	Unicorp W/C	SFL	FP3	34	2.25	76	1788
VERMILLION/7216	371	CNTY/SR	MM	BP	14.39	9.7	140	(5073)
Bryan/Grupe (7108)	372	CNTY/SR	ML	BP	13.93	10.5	117	(5074)
Westside SR	383	Unicorp W/C	SFL	FP3	176	3	528	1851
Westside SR	387	Unicorp W/C	MFL	FP3	209	9.8	2,048	1853
Westside SR	387	Unicorp W/C	SFVL	FP3	203	0.75	152	1854
West Branch	398	Unicorp W/C	MFVL	FP3	16	5.6	89	1875
West Branch	398	Unicorp W/C	SFL	FP3	24	2.25	54	1876
Old Blackhawk Road, Spec. Pln.	403	Unicorp W/C	MFL	FP3	19	8.8	167	2208
Old Blackhawk Road, Spec. Pln.	403	Unicorp W/C	SFH	FP3	33	5.25	173	2209
Athenian School	403	Unicorp W/C	SFL	FP3	47	0.957	44	1886
Old Blackhawk Road, Spec. Pln.	403	Unicorp W/C	SFL	FP3	21	2.25	47	2210
Black Hills GPA	403	Unicorp W/C	SFL	FP3	31	1.29	39	2211
Blackhawk/Country Club	403	CNTY/DA	SL	BP	25.12	1.19	24	(5075)
7-1 Ujdar	404	Unicorp W/C	SFH	FP3	20	5.65	113	1887
7-2 Bettencourt	404	Unicorp W/C	SFL	FP3	325	1.446	469	1888
Braddock/Logan (7188)	404	CNTY/DA	SL	BP	325	1.92	469	(5076)
BRADDOCK/3011-89	404	CNTY/DA	SM	BP	19.22	3.2	62	(5077)
DEBOLT/7023	405	CNTY/CL	SL	BP	573.845	0.02	9	(5078)
	414	W. Pittsburg	MFL	AP	6	8.8	53	(5079)
Shore Acres/W Pitt Redevelopment	414	W. Pittsburg	SFH	FP3	2	5.25	11	1897
n/o Willow Pass	415	W. Pittsburg	MFM	FP3	12	15.2	182	1899

Table 6-16 (Continued)

Project Identifier	Traffic Zone	Jurisdiction	Land Use	Trans. Type	Gross Acres	Density or FAR	Housing Units	Trans. No.
	415	W. Pittsburg	SFH	PP	59	5.25	310	(5080)
AB (3005-90)	416	W. Pittsburg	MFH	PP	0.47	29.79	14	(5000)
7-1 Tener & Associates	416	W. Pittsburg	MFM	FP3	0	20	0	1901
s/o Willow Pass	416	W. Pittsburg	MFM	FP3	1	15.2	15	1902
Oakley Road	462	Oakley	SFL	FP3	43	2.25	97	1949
Big Break	477	Oakley	SFH	FP3	68	5.25	357	1970
Route 4/Oakley Road	478	Oakley	MFM	FP3	10	15.2	152	1973
Belleci (7330)	478	Oakley	SFH	AP	23	5.67	102	(5081)
	478	Oakley	SFH	AP	7.4	5.5	41	(5082)
Slardigi (7367)	479	Oakley	SFH	AP	7.5	6.38	37	(5083)
Claremont Homes (7366)	479	Oakley	SFH	AP	7.4	6.2	31	(5084)
Belleci (7203)	479	Oakley	SFH	AP	20	5.95	91	(5085)
	479	Oakley	SFH	AP	27.5	5.5	151	(5086)
ATSF/Route 4	479	Oakley	SFH	FP3	10	5.25	53	1974
s/o Oakley Road	480	Oakley	MFL	FP3	29	8.8	255	1975
s/o Oakley Road	480	Oakley	MFM	FP3	21	15.2	319	1976
s/o Oakley Road	480	Oakley	SFH	FP3	49	5.25	257	1977
California Homes (7368)	480	Oakley	SFH	PP	9.7	5	39	(5001)
JE (7083)	480	Oakley	SFL	AP	4.2	1.36	4	(5087)
Belleci/Adams (7232)	480	Oakley	SFL	AP	5	2.67	10	(5088)
	480	Oakley	SFL	AP	53	2.25	119	(5089)
7-1 South Forty (6711)	480	Oakley	SFL	FP3	27	1.852	50	1978
s/o Oakley Road	480	Oakley	SFL	FP3	26	2.25	59	1979
Northstar (7426)	480	Oakley	SFL	PP	12.41	2.9	27	(5002)

Table 6-16 (Continued)

<u>Project Identifier</u>	<u>Traffic Zone</u>	<u>Jurisdiction</u>	<u>Land Use</u>	<u>Trans. Type</u>	<u>Gross Acres</u>	<u>Density or FAR</u>	<u>Housing Units</u>	<u>Trans. No.</u>
I&F Partnership (7467)	480	Oakley	SFL	PP	4.9	2.86	11	(5003)
Belleci (7495)	480	Oakley	SFL	PP	5.16	2.79	12	(5004)
Belleci/Bliss (7358)	480	Oakley	SFL	PP	19.9	2.62	43	(5005)
Belleci (7438)	480	Oakley	SFL	PP	7.1	1.76	11	(5006)
AB (7202)	480	Oakley	SFL	PP	6.4	5.42	26	(5007)
AB (7359)	480	Oakley	SFL	PP	20	2.28	38	(5090)
Belleci (7165)	480	Oakley	SFM	AP	10	4.29	33	(5091)
AB (7090)	480	Oakley	SFM	AP	2.66	3.64	8	(5092)
Cotton (7385)	480	Oakley	SFM	PP	42.8	4.77	159	(5008)
Main Street/Cypress Road	481	Oakley	MFL	FP3	14	8.8	123	1981
Hasseltine (7164)	481	Oakley	SFH	AP	3.42	5.42	16	(5093)
Garrow (7250)	481	Oakley	SFH	AP	2.86	6.02	13	(5094)
Main Street/Cypress Road	481	Oakley	SFH	FP3	0	5.25	0	1982
Belleci (7293)	481	Oakley	SFM	AP	2.5	3.68	7	(5095)
7-1 Saber Development (6865)	481	Oakley	SFM	FP3	10	5.067	51	1983
Isackson Associates (7064)	482	Oakley	SFH	AP	1.06	5.41	4	(5096)
Cypress Road/C. C. Canal	482	Oakley	SFH	FP3	29	5.25	152	1984
7-8 Harris Realty (6924)	483	Oakley	SFH	FP3	30	5.667	170	1986
Carpenter Road	483	Oakley	SFL	FP3	269	2.494	671	1987
7-4 Saber (6814)	483	Oakley	SFM	FP3	13	3.231	42	1988
7-1 Signature (6872)	483	Oakley	SFM	FP3	7	3.571	25	1989
Carpenter Road	483	Oakley	SFM	FP3	10	3.75	38	1990
7-2 Belleci (6971)	483	Oakley	SFM	FP3	14	4.857	68	1991
7-5 Signature (6882)	483	Oakley	SFM	FP3	34	3.765	128	1992

Table 6-16 (Continued)

<u>Project Identifier</u>	<u>Traffic Zone</u>	<u>Jurisdiction</u>	<u>Land Use</u>	<u>Trans. Type</u>	<u>Gross Acres</u>	<u>Density or FAR</u>	<u>Housing Units</u>	<u>Trans. No.</u>
7-3 Smith (6845)	483	Oakley	SFM	FP3	58	3.793	220	1993
7-7 Michaelides (6941)	483	Oakley	SFM	FP3	20	3.7	74	1995
AB (7489)	483	Oakley	SFM	PP	1.47	4.55	5	(5009)
Empire Avenue	484	Oakley	SFL	FP3	125	2.25	281	1996
Downtown	486	Oakley	SFH	FP3	14	5.25	74	2024
AB (7365)	487	Oakley	MFL	AP	16.4	9.91	130	(5097)
JE (7163)	487	Oakley	MFL	AP	7.05	11.93	52	(5098)
ATSF/Cypress	487	Oakley	SFH	FP3	0	5.25	0	2025
Helix/Olson (7484)	489	Oakley	SFH	AP	1	5.88	4	(5099)
Oakley	489	Oakley	SFH	FP3	9	5.25	47	2028
Oakley	489	Oakley	SFM	FP3	89	3.75	334	2029
AB (7364)	489	Oakley	SFM	PP	6	3.67	22	(5010)
S. Oakley	490	Oakley	SFH	FP3	221	5.25	1,160	2030
7-2 Saber (6954)	490	Oakley	SFH	FP3	20	5.2	104	2031
7-1 Steadman (6953)	490	Oakley	SFH	FP3	28	4	112	2032
S. Oakley	490	Oakley	SFL	FP3	20	2.25	45	2033
Belleci (7539)	490	Oakley	SFL	PP	10	3.11	23	(5011)
S. Oakley	490	Oakley	SFM	FP3	11	3.75	41	2034
Sand Hill	491	Oakley	MFL	FP3	56	8.8	493	2036
7-2 Jonathon (6913)	491	Oakley	MFM	FP3	21	7.19	151	2037
7-3 Steadman (6922)	491	Oakley	SFH	FP3	30	5.667	170	2038
Sand Hill	491	Oakley	SFH	FP3	10	5.25	53	2039
7-1 California Land (6927)	491	Oakley	SFH	FP3	10	5.1	51	2040
Belleci (7396)	491	Oakley	SFL	PP	18.3	2.84	39	(5012)

Table 6-16 (Continued)

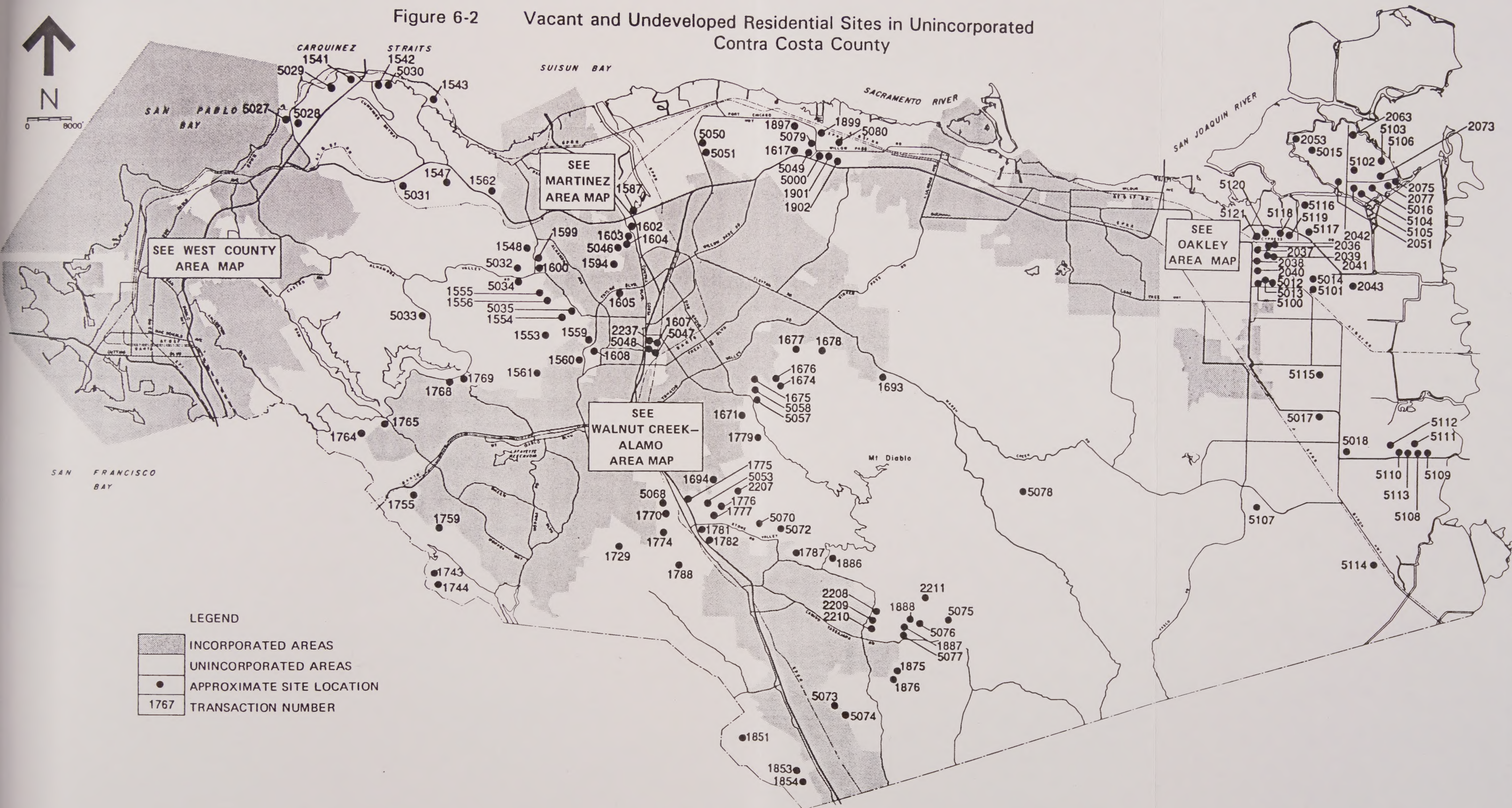
<u>Project Identifier</u>	<u>Traffic Zone</u>	<u>Jurisdiction</u>	<u>Land Use</u>	<u>Trans. Type</u>	<u>Gross Acres</u>	<u>Density or FAR</u>	<u>Housing Units</u>	<u>Trans. No.</u>
Belleci (7390)	491	Oakley	SFL	PP	15.1	2.65	30	(5013)
Belleci (7200)	491	Oakley	SFM	AP	14.92	2.71	29	(5100)
Sand Hill	491	Oakley	SFM	FP3	0	3.75	0	2041
Sand Hill	491	Oakley	SFVL	FP3	10	0.75	8	2042
Knightsen	492	Other EC	SFM	FP3	6	3.75	23	2043
Belleci (7431)	492	Knightsen	SFVL	PP	91.6	0.13	9	(5014)
	492	Other EC	SFVL	PP	91.6	0.75	69	(5101)
W. Bethel Island	493	B. Isle	SFH	FP3	219	5.25	1,150	2051
W. Bethel Island	493	B. Isle	SFL	FP3	17	2.25	38	2053
Byron & Murphy (7434)	493	B. Isle	SFVL	PP	179	0.62	83	(5015)
Bethel Island	494	B. Isle	SFH	FP3	7	5.25	37	2063
Conner Property (3060-87)	494	B. Isle	SFL	AP			236	(5102)
JE (7139)	495	Oakley	MFL	AP	7.53	11.99	80	(5103)
Delta Coves (6013)	495	B. Isle	MFL	AP	7.1	9.15	65	(5104)
Delta Coves (6013)	495	B. Isle	MFL	AP	61	8.08	495	(5105)
	495	B. Isle	MFL	AP	10	8.8	88	(5106)
East Bethel Island	495	B. Isle	MFL	FP3	0	8.8	0	2073
East Bethel Island	495	B. Isle	SFH	FP3	0	5.25	0	2075
East Bethel Island	495	B. Isle	SFL	FP3	540	2.25	1,215	2077
Ranchetts (7491)	495	B. Isle	SFL	PP	20	1.00	16	(5016)
Greenwell/Presco (7519)	503	Byron	SFVL	PP	60	0.13	6	(5017)
Belleci (7129)	511	Byron	SFVL	AP	114	0.09	8	(5107)
AB (7533)	514	Byron	SFVL	PP	145	0.26	26	(5018)
JE (7106)	515	Byron	MFL	AP	20.55	7.29	113	(5108)

Table 6-16 (Continued)

<u>Project Identifier</u>	<u>Traffic Zone</u>	<u>Jurisdiction</u>	<u>Land Use</u>	<u>Trans. Type</u>	<u>Gross Acres</u>	<u>Density or FAR</u>	<u>Housing Units</u>	<u>Trans. No.</u>
Discovery Bay	515	Disc Bay	MFL	FP3	20.5	11	226	(5109)
AB (7226)	515	Byron	SFL	AP	175.7	1.30	171	(5110)
Discovery Bay	515	Disc Bay	SFL	FP3	175	2.25	394	(5111)
AB (7363)	515	Byron	SFM	AP	20.66	3.55	55	(5112)
Discovery Bay	515	Disc Bay	SFVL	PP	455	0.08	20	(5113)
RD (7535)	517	Byron	SFVL	PP	455	0.08	20	(5114)
	514	Other EC	SFVL	AP	145	0.75	109	(5115)
Cypress Corridor	488	Oakley	SF	PP	1,138		2,565	5116
Cypress Corridor	488	Oakley	MF	PP	83		380	5117
Cypress Corridor	491	Oakley	SF	PP	76		285	5118
Cypress Corridor	491	Oakley	MF	PP	43		285	5119
Cypress Corridor	492	Oakley	SF	PP*	115		570	5120
Cypress Corridor	492	Oakley	MF	PP	24		190	5121



Figure 6-2 Vacant and Undeveloped Residential Sites in Unincorporated Contra Costa County



CONTRA COSTA COUNTY CALIFORNIA

SEE TABLE 6-14, Vacant and Undeveloped Residential Sites in Unincorporated Contra Costa County for more information. (June 1990)

Figure 6-3 Vacant and Undeveloped Residential Sites in Unincorporated Contra Costa County--West County Area Map

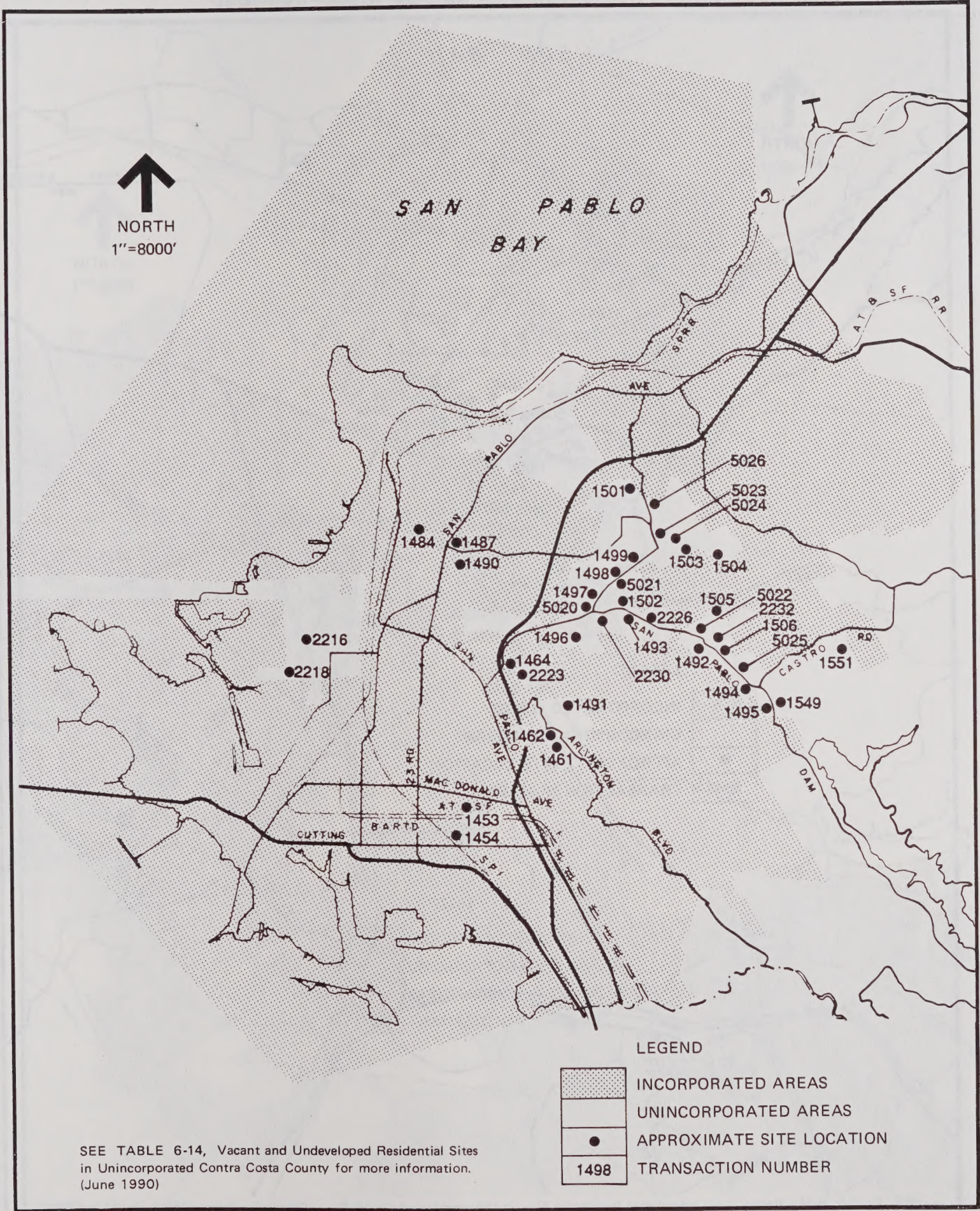


Figure 6-4 Vacant and Undeveloped Residential Sites in Unincorporated Contra Costa County--Martinez Area Map

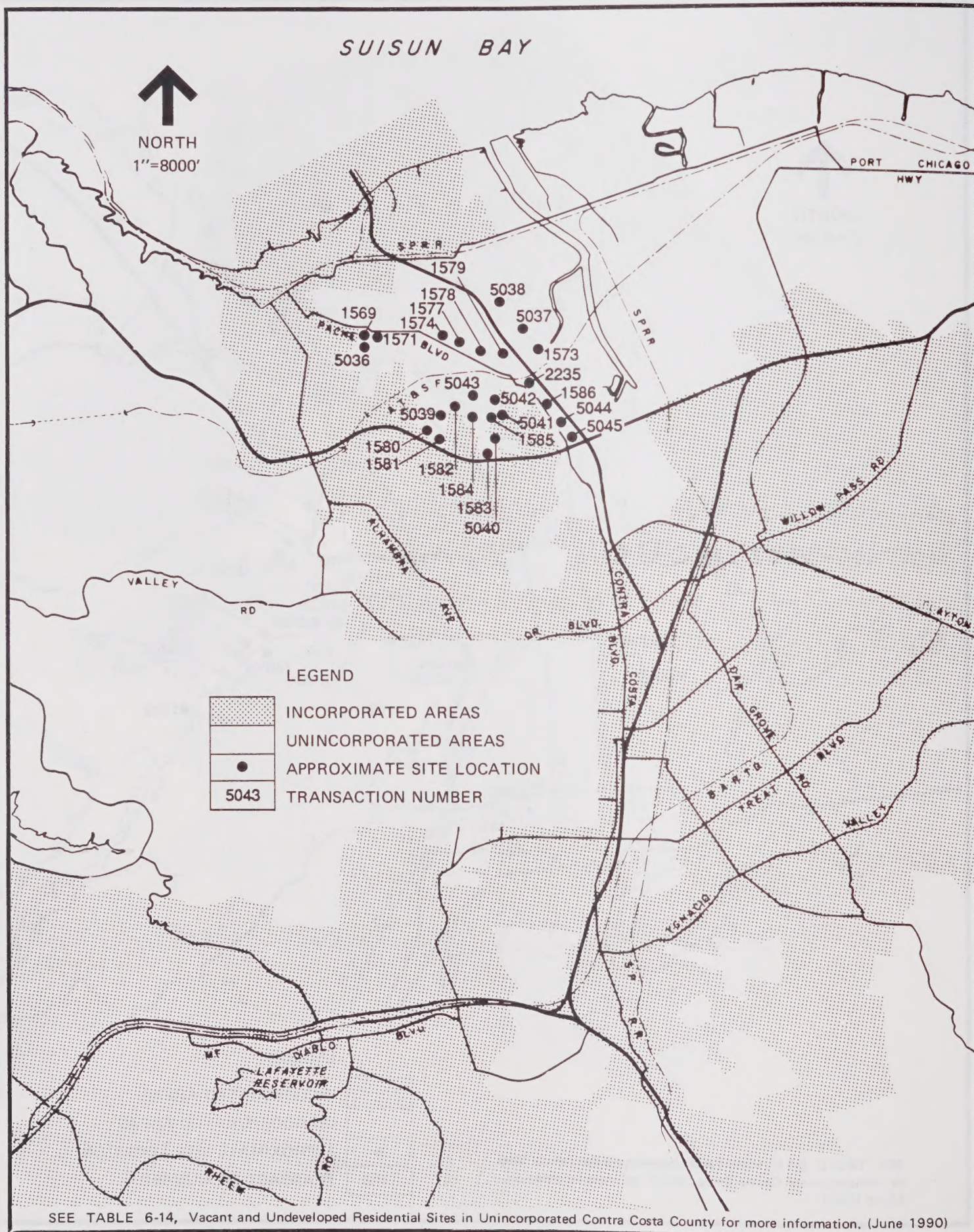


Figure 6-5 Vacant and Undeveloped Residential Sites in Unincorporated Contra Costa County--Walnut Creek-Alamo Area Map

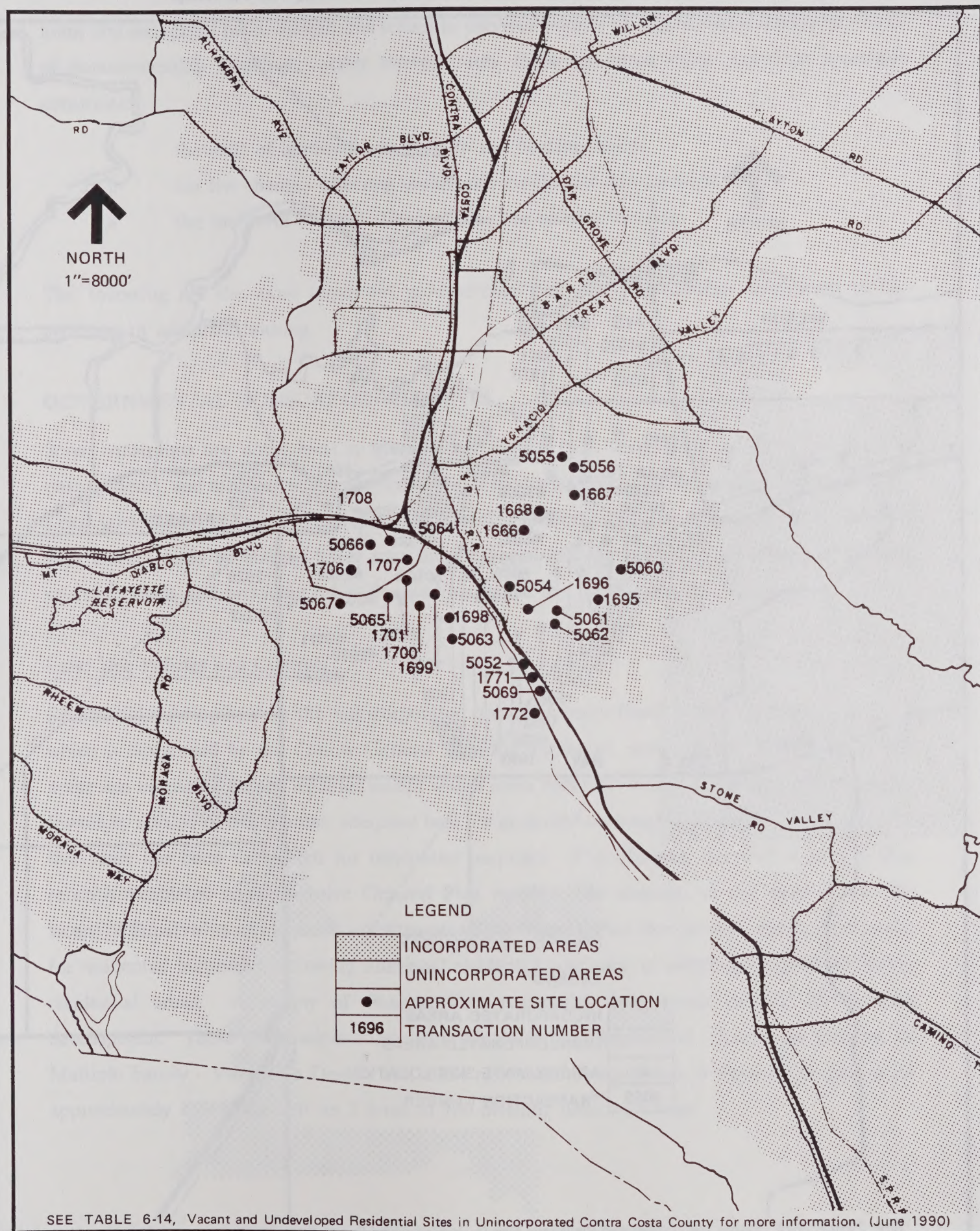
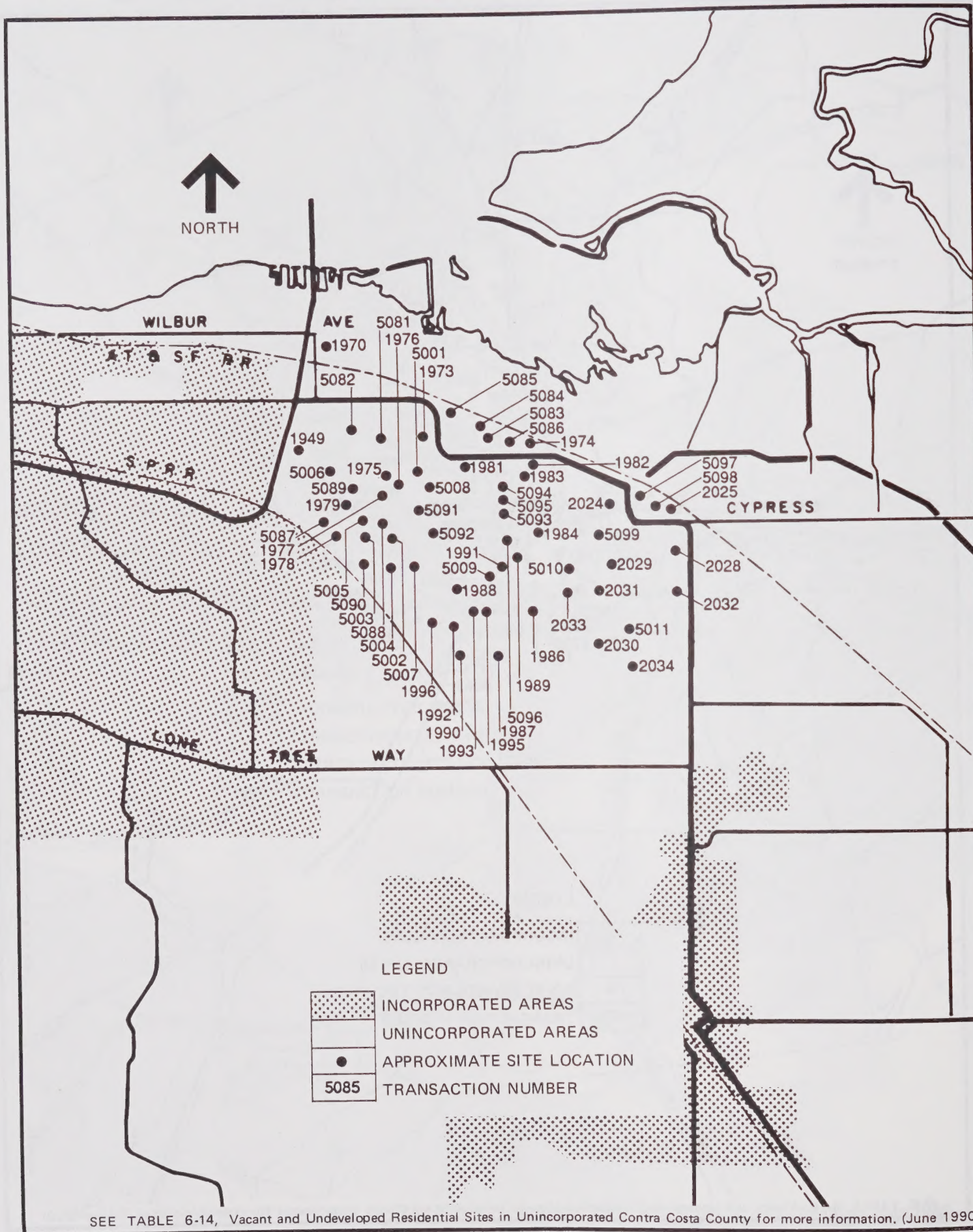


Figure 6-6

Vacant and Undeveloped Residential Sites in Unincorporated Contra Costa County--Oakley Area Map



loans and mortgages have resulted in a return to previous periods of high building activity, primarily of homeownership dwellings. After interest rates, there are three other important economic constraints:

- o the shift of infrastructure costs to the housing buyer;
- o tax law changes affecting multifamily residential development; and
- o the low level of public financing for low-income housing.

The following are the more important governmental and non-governmental constraints to the provision of adequate housing.

GOVERNMENTAL HOUSING CONSTRAINTS

Some constraints are not subject to government control (e.g., those resulting from the physical environment), and most are subject to only little or moderate control or influence at the local level. Local government cannot, for example, affect market interest rates, but it can somewhat alleviate high market rates by making lower cost financing available through issuing tax-exempt housing revenue bonds, and providing other financial assistance that lower effective borrowing costs.

Land Use Policies and Controls

Residential development in the unincorporated area of Contra Costa County can occur on land which is designated by the County General Plan for residential uses. In addition, an individual home can be placed on any legal lot except within some industrial areas. As indicated in the Land Inventory section of this chapter, adequate land for projected housing development during the next five years has been designated for residential purposes. This Housing Element is part of this recently-completed comprehensive General Plan revision. In addition, as the need arises, the Board of Supervisors can approve amendments to the General Plan that provide additional capacity for residential purposes by allowing additional residential land area, or additional density in existing residential areas. A variety of General Plan residential designations provide for housing development. These designations range from Single Family Residential - Very Low Density, to Multiple Family - Very High Density and allow residential development at densities ranging from approximately 1 dwelling unit on 5 acres to 100 dwelling units on 1 acre.

The voters, in passing Measure C - 1990, the Contra Costa 65/35 Land Preservation Plan, established a number of provisions which are to ensure that housing policies in this General Plan and related provisions of state law will be followed. While Measure C - 1990 established an ULL, it also provided that a change to the line could occur if the Board finds that the ULL is preventing the County from providing its fair share of affordable housing, or regional housing, as required by state law and the Board finds that a change to the ULL is necessary and the only feasible means to enable the County to meet these state law requirements. Measure C - 1990, in a section on housing, also provides as follows: "As required by the State Planning Act, the County shall periodically review and update the New General Plan to conform to state housing requirements and to ensure its capacity to accommodate a variety of housing types and prices throughout the County.

The new County General Plan's policies govern the County's Zoning Ordinance. Portions of the zoning ordinance will need to be changed to conform to the General Plan. Each zoning district has restrictions regarding density, setbacks and number of units per parcel. Secondary units are allowed in single-family and other residential zones with the issuance of a land use permit. Planned Unit (P-1) zoning may be utilized to allow for flexibility in design and variations in density as long as the overall density is compatible with the General Plan. The County's Zoning Ordinance provides adequate land to allow for residential projects where adequate services and infrastructure can be economically provided. Much of the County's undeveloped residentially designated land is designated Single Family Residential - Low Density.

The provision of affordable housing could be aided by the designation of additional land for higher density housing in areas where adequate services are available. In addition, land use regulations have been adopted which encourage and simplify the process of providing small "second" units, rental spaces in existing homes. These units could provide some additional housing at minimal cost to provide for the needs of lower income households, smaller one and two-person households that are becoming more common for extended family members, and would aid owners of large and/or high cost homes when the space is no longer needed for a large household.

Building Codes and Enforcement

Minimum building standards are essential to ensure safe housing. Excessive safety standards or additional standards controlling or affecting design may increase the cost of housing. Inflexible application of building codes to unique residential facilities such as homeless shelters can add additional costs as well. The County follows the latest adopted Uniform Building Code and the Uniform Housing Code. New construction is reviewed based on these standard codes, which generally reflect current technologies. Renovations are reviewed relative to the flexible Uniform Housing Code which allows for different construction types so long as minimum health and safety requirements are met. The County has made only minor amendments to its Uniform Housing Code. The amendments are not substantive relative to Code requirements, rather they relate to minor administrative and processing requirements.

On- and Off-Site Improvements

Housing projects are generally required to provide all on-site improvements, such as drainage, streets, and sidewalks, that are needed to serve the project. Additionally, housing projects may be required to provide, or contribute financially to, off-site improvements, such as drainage, or major roads, which serve the project's residents as well as the residents of other developments. In many cases, those off-site improvements (capital improvements) are financed by fees.

The Growth Management Element (Chapter 4) of this General Plan works in conjunction with the Land Use Element (Chapter 3) to ensure that development proceeds in a manner which will not negatively affect facility and service standards for existing land uses. In order to carry out the goals of the Land Use Element, new development must demonstrate that the facilities standards of the Growth Management Element will be met. While anticipated that new growth will be able to mitigate these potential impacts, through development fees and other exactions, it is possible that the timing of project approvals may be affected by the inability of individual developments to carry the fair-share of full-service increments needed to allow further growth in some areas of the County. Thus, the improvements needed to implement the Circulation and Public Facilities and Services Element of the Plan will be directly tied to, and dependent upon, the implementation of the Land Use Plan. Similarly, implementation of the Land Use Element will only proceed when it can be demonstrated that the standards can be met by new development. This inter-relationship should provide for optimal and more cost-effective solutions for the provision of facilities and

services necessary to support new development. In addition, the service and facility standards have been developed to achieve the Land Use goals and objectives without requiring non-essential or unnecessary improvements.

Fees and Exactions

According to a Bay Area Council Study, development fees increased 126 percent between 1981 and 1987, to represent approximately 10 percent of the cost of a new home.

Generally, there are two kinds of fees which must be paid by proposed housing projects. The first kind, and least expensive, are processing fees imposed by several different County agencies including the Community Department, Building Inspection Department, and Public Works Department. Included in this group are environmental review costs. Before Proposition 13, these processing fees were significantly smaller because processing efforts were funded by local government as a public protection function rather than as a service to the applicant. It is now necessary to require that the user of the service pay for the cost of that service. As an example, the County Building Permit and Plan Check fees are \$1,340 for a single family house. Comparable fees in neighboring jurisdictions range from \$956 in Alameda County to \$1,460 in Solano County to \$1,850 in San Joaquin County.

The second kind of fee is collected to provide for services or facilities that serve the residents of housing projects and to offset infrastructure impacts on the surrounding community. Some of these fees are collected directly by the County, such as park, school, drainage and Area of Benefit fees. In areas with approved drainage plans, fees are collected in order to spread the cost of the improvements over all new homes. Park land or "in lieu" park dedication fees of \$400 (\$1,100 in Alamo and \$1,350 in East County) are collected for each new home to provide for land and/or capital improvements to the local park system that will serve the new occupants. School districts that have been determined to lack adequate classroom capacity to serve new developments receive an impact fee from new homes within their district. The fee is based on square feet of assessable space in the new structure and is used to provide temporary structures for classrooms.

In addition to the service and facility fees collected by the County, there are others, such as connection and acreage fees, which are paid directly to utilities and special districts. Some of these are government bodies whose property tax revenue base was eroded by Proposition 13.

Because of variables involved, it is not possible to establish a single fee that reflects development fees across the unincorporated County. A typical example of fees associated with a single family residence would result in a fee of \$11,900 per unit in West County, \$15,999 per unit in Central County, and \$13,574 per unit in East County. By comparison, Alameda County development fees are \$10,254, San Joaquin - \$8,000 (not including park dedication and fire district fees), \$13,220 in the City of Hercules and \$28,850 in the City of San Ramon.

The County is continually assessing the general magnitude and effect of its fees and exactions. The County's Zoning Ordinance allows the Community Development Department to consider the waiver of all or a part of its processing fees for non-profits which are publicly subsidized for public service activities. However, as was noted, these fees constitute a small proportion of the fees paid by housing projects. In December 1989, the Community Development Department inventoried in detail all development fees collected in unincorporated areas for residential development.

Processing and Permit Procedures

The cost and availability of residential building parcels is at least partially related to the time and cost required to process proposed residential development projects. Contra Costa County has a system of procedures and requirements in which various components are applicable depending on the status of the project site and the nature of the project proposal. Projects undergo initial determinations regarding General Plan conformance and California Environmental Quality Act status. If the site does not have a General Plan designation that would accommodate the proposed development, a General Plan Amendment must be sought. Amendments to the General Plan are policy matters which ultimately must be approved by the County Board of Supervisors. Environmental reviews proceed concurrently. The second level of procedure requires that the site have the appropriate zoning to allow for the proposed development. Rezoning, if required, can be sought in one of two ways. A simple rezoning changes the land use designation and/or the density, in the case of a housing site, to either a single-family or a multi-family designation which has a set of regulations regarding the manner in which the site can be developed (density, setback,

etc.). A Planned Unit rezoning includes both a rezoning and a preliminary development plan for which an approval places specific design and density guidelines on the project. Conventional (residential) projects require Subdivision Map Act approvals. Multifamily developments require development plan approval while single-family developments require subdivision map approval.

The time required to process development applications can vary. Contra Costa County makes all efforts to process applications in an expedient fashion. In general, the various development applications and processing times are as follows:

Rezoning	3 to 5 months
Use Permits	3 to 4 months
Development Plans	3 to 4 months
Minor Subdivisions	3 to 4 months
Major subdivisions	6 months
Variances	2 months

Applications requiring an Environmental Impact Report will require additional processing time of approximately 6 months. Lot line adjustments and the like can be handled administratively at the time the application is submitted.

Some of the steps can be taken concurrently but this is often not practicable because each step requires more detailed information than the one before. Portions of this process could be accelerated by allowing more administrative reviews of non-controversial applications and assigning decision making on all but the largest subdivisions to the Zoning Administrator.

Federal, State and Local Housing Policy and Programs

Housing has not benefited from a consistent and cohesive federal strategy; rather, federal programs have moved through various experimentation phases. Four approaches can be identified. First, the 1949 Housing Act called for the demolition of substandard housing; a production strategy was begun in 1968; later, in 1974, a housing conservation strategy was developed; and the Reagan/Bush Administration's view has been that industries, including housing, could thrive unaided in a healthy, unregulated, economy. The manifestation of this philosophy in the housing area has been a massive reduction in programs in which the federal government has subsidized publicly assisted

housing. To illustrate in the past decade, allocations for federally subsidized units fell by over 70 percent.

Federal legislation has made a significant contribution to affordable housing in the area of homelessness. The 1987 McKinney Act initiated programs to provide funding for emergency shelters, transitional housing, permanent housing for handicapped populations, and services for the homeless. However, only a fraction of the initial funding allocations have been appropriated to these programs. Actual appropriations for homeless programs have ranged from 26 to 75 percent of the levels authorized under the McKinney Act. While these programs are critical in addressing immediate needs of the homeless, they do not provide more than temporary solutions since they do not increase low cost housing opportunities overall.

State housing programs have not been dismantled to the extent that federal programs have, due primarily to infusions of new funding approved by California voters in June and November 1988. Proposition 77 generated \$150 million for seismic reinforcements for multifamily housing and rehabilitation of owner occupied and rental housing. Proposition 84 generated \$300 million total for a number of housing programs: \$200 million for new construction of rental housing; \$25 million for acquisition and rehabilitation of residential hotels; \$25 million for emergency shelters; \$15 million for new construction or acquisition/rehabilitation of rental housing with supportive services for families and seniors; \$10 million for migrant farm labor centers; and \$25 million for subsidies to first time home buyers. A third initiative, Proposition 107, adopted in 1990, provides \$150 million to supplement the following Proposition 84 programs: \$100 million for new construction of rental housing; \$15 million for acquisition and rehabilitation of residential hotels; \$10 million for emergency shelters; and \$25 million for first-time home buyer assistance.

A selected summary of programs of the federal and State government is included in Appendix B. The information is normative only and provides no information on the current operational status or appropriation levels.

To the extent that housing needs exist which cannot be addressed by an unsubsidized private sector, responsibility has been consigned to local government by default. Given that cities and counties in California are in extremely tight fiscal circumstances, their ability to initiate and maintain local housing programs is extremely limited. Federal policy constrains local efforts to finance affordable

housing development through State caps on mortgage revenue bond financing and on Low Income Housing Tax Credits. Redevelopment tax increment funds for low and moderate income housing represent a major local resource for affordable housing that could become its largest source of funding. The County estimates that a total of \$3,675,000 will be available for low- and moderate-income housing from 1990-1995 as follows: Pleasant Hill BART, \$2.5 million; North Richmond, \$300,000; West Pittsburg, \$500,000; Oakley, \$250,000; and Rodeo, \$125,000.

While the termination or diminishment of many federal and State housing assistance programs may have generally limited the ability of localities to address housing problems, it has also resulted in the development and use of "innovative" housing programs. By entering into partnerships with the private sector, by accessing funds through private capital markets, by lending, recapturing and leveraging what funds are at their disposal, and by making greater use of non-financial forms of assistance, the cities and counties can continue to help to alleviate the shortage of low and moderate income housing.

Recent cuts in federal and State housing programs, combined with the substantial increases in housing costs in Contra Costa County, have created a need for additional capital to achieve community affordable housing goals. The establishment of Housing Trust Funds are means by which some communities have closed this financial gap. In its broadest sense, the term Housing Trust Fund refers to a dedicated source of revenue available to assist lower income people achieve affordable housing. Ideally, Housing Trust Funds are ongoing and dedicated exclusively to the production, rehabilitation, or preservation of low and moderate income housing. Funds may be used to meet debt, equity, subsidy, or credit enhancement needs of affordable housing projects.

While Housing Trust Funds are a relatively recent phenomena, three broad categories of revenue sources have emerged:

- o Development Ordinances, Fees or Taxes
 - Linkage programs. Programs that require commercial and office developers to construct housing or pay an in-lieu housing fee. Boston, Santa Monica and San Francisco have adopted such programs. Such programs have been established as both mandatory or voluntary (subject to negotiation). Including any housing ordinances, with in-lieu fee provisions, would also be an example of a linkage program.

- Preservation Programs. Fees or taxes attached to the conversion of rental units to condominiums or the demolition of housing units. Generation of revenue is usually a secondary objective to preserving the existing housing supply. Burlington, VT and Montgomery County, MD are examples of conversion fees, while Hartford, CN is an example of a demolition-related fee.

o Revenues from Real Estate Activities

- Taxes/fees on Real Estate Transactions. Revenue generated from real estate transfer fees, and fees assessed upon the filing of real estate documents have been established in Dade County, FL; Howard County, MD; Delaware; and Maine.
- Interest Earned on Market-based Accounts. The dedication of revenue from interest earnings on real estate/mortgage escrow accounts have been used in Maryland and Washington State.
- Development Activities. Development can create revenue from special taxes (hotel/motel room tax surcharges are used for affordable housing among other things, in San Francisco) or property tax increments. Redevelopment agencies in California are generally required to dedicate 20 percent of tax increments to achieve low and moderate income housing goals.

o Program-Generated Revenue

Dedicating revenue or interest earnings from other programs, such as tax-exempt mortgage bond programs are being used in Contra Costa County to further affordable housing goals. Funds are used first to cover expenses of the County in administering housing and community development programs. To the extent surpluses exist, they have been used to assist affordable housing projects.

Any effort to design and adopt Housing Trust Funds must take into account the following components:

- Area housing needs assessment, to review low and moderate income housing requirements for homeowners, renters and special needs population (elderly, handicapped, farmworkers, homeless, etc.) is necessary to achieve political consensus.
- Legal review of pertinent State law and local ordinances, to identify legal obstacles and legal remedies;
- Market analyses and revenue projections for selected revenue sources, to ascertain revenue size and design housing programs accordingly;

- Specification of housing program uses and administration; and
- Political consensus building necessary to adopted selected trust fund proposals.

Conversion of Assisted Housing to Market Rate

A nationwide problem is the conversion of previously assisted low income rental projects to market rate rental projects. This can occur because of the termination of regulatory agreements that carry affordability requirements or the termination of rent subsidies. For federally assisted rental projects, Congress has recently enacted legislation that will (1) require owners to demonstrate that conversion will not result in hardships; (2) provide additional financial incentives to owners who will retain the affordability restrictions; and (3) provide tenant organizations or non-profit organizations the right of first refusal to purchase the units. In addition, locally assisted (Mortgage Revenue Bond, CDBG, etc.) may also have terminating affordability requirements.

Within the unincorporated County, two rental projects are at risk of converting to 100 percent market rate prior to the end of the 1990's:

1. Project: Creekside Terrace
 Location: 5038 San Pablo Dam Road
 El Sobrante
 Description: Type of Residents - 56 units, family
 Type of Assistance - FHA 236
 Earliest Date of Conversion: December, 1993
2. Project: Rivershore Apartments
 Location: 1123 Shoreview Court
 West Pittsburg
 Description: 245 units financed with tax exempt bonds; 20% affordable - 49 units
 Earliest Date of Conversion: September, 1997

The development of new affordable rental housing projects is a difficult and expensive undertaking. Therefore, the County (and its cities) have an incentive to minimize the loss of existing affordable rental housing. The current cost of developing a new rental unit is roughly \$60,000. Based on discussions with parties who have been involved in the preservation of affordable rental projects, the public costs of such preservation efforts could be on the order of \$25,000 per unit or greater (renovation, capital subsidy). Therefore, the public financial impact, adjusted for inflation, of

mitigating the conversion of the two unincorporated County projects could be as follows:

	1990-95 (\$000,000)	1990-2000 (\$000,000)
Replace/New Construction	\$3.7	\$3.8
Retain with Subsidy	\$1.5	\$1.6

Because this conversion problem cuts across political boundaries, a joint city-County affordable housing preservation project has been suggested. This Housing Element provides for the establishment of such a project (Implementation Measure 6-ay). Areas of local involvement could include the development of an early warning system to identify projects at risk of converting, monitoring compliance with regulatory requirements governing conversion, facilitating the sale of projects to new owners including non-profits, and utilizing local financial resources (CDBG, redevelopment housing funds, tax exempt bonds, housing trust funds, etc.) in combination with available federal or State financial resources.

An emerging resource in this area may be the issuance of tax exempt bonds for projects acquired by qualified 501 (c) (3) non-profit organizations. A recent survey by the County indicated that a number of Bay Area and County non-profit organizations have interests in this area. Among the non-profits who responded to the survey were Shelter, Inc., Ecumenical Association for Housing, Eden Housing, Pacific Community Services, BRIDGE Housing, Volunteers of America, East Bay Services to Developmentally Disabled, Las Trampas, Inc., Rubicon, Housing for Independent People, Rural California Housing Corporation and the California Housing Partnership. It would appear that these organizations have the legal and managerial capacity to acquire and manage these housing developments.

NON-GOVERNMENTAL HOUSING CONSTRAINTS

Availability of Financing

The most important factor determining the availability of affordable homeownership opportunities is the availability of financing at reasonable interest rates. Interest rates are determined by the market with major contributing factors being the general health of the economy, Federal Reserve Board Policy, the current and expected rates of inflation, federal fiscal policy, among others. Major institutional and regulatory adjustments have also resulted in changes in the magnitude and manner in which the mortgage and financial markets operate. For example, the 1989 savings and loan

industry bailout legislation has reduced the availability of construction financing. These factors affect residents and local government alike, but are largely out of the control of both.

The results of the major financial market and institutional shifts of the past decade have been that mortgage financing has risen to historically high rates, and that the rates have been subject to rapid and extreme volatility. Since the mid 1980's, however, mortgage interest rates have generally declined and stabilized, with predictions of continuing decline in 1990.

Initiatives have been designed to help overcome, to some degree, the constraints imposed by higher rates and uncertainties. Lending institutions have designed new financing instruments, such as adjustable rate mortgages, that increase the availability of financing by shifting some of the interest rate risks from the lender to the borrower. However, these are less attractive than fixed rate mortgages as interest rates decline. Another new form of Federal Housing Administration (FHA) mortgage, the Price Level Adjusted Mortgage (PLAM), offers very low interest rates with payment levels tied to Consumer Price Index increases or decreases but have the disadvantage of negative amortization, i.e. the mortgage balance, or principal, can increase. FHA and Veteran's Administration (VA) mortgages, available with 0 to 5 percent downpayment requirements, can eliminate prohibitively large downpayments. FHA loans should be more feasible in local housing markets due to recent federal legislation which increased maximum loan limits but generally have limited effectiveness in high-cost housing market areas.

Other new legislation also requires Federal Home Loan Banks to establish affordable housing programs to offer cash advances to lending institutions to provide below market rate financing for low and moderate income housing.

Local and State government have become prominent mortgage lenders through the issuance of tax-exempt bonds. It has been estimated that up to one-third of first time home buyers nationally now purchase homes through mortgage bond programs, and that as much as 10 percent of all long-term residential lending is through such programs. Because of concern over the loss of federal revenue, Congress has indicated that such programs must address a "public purpose" by being directed to and benefiting those who have a need and might otherwise be unserved. This avenue of financing, if not properly policed and executed by local and state governments could be severely restricted or eliminated altogether.

The availability of financing and the interest rates can vary geographically. Certain communities and income groups can be underserved by the financial community. Regulatory requirements on these financial institutions do require community lending activities. The County has contacted the following agencies in determining that there are no areas currently under-served by the lending institutions: (1) City of Richmond, (2) City of Pittsburg, (3) Federal Reserve Bank, San Francisco, (4) Federal Home Loan Bank, San Francisco, (5) Federal Deposit Insurance Corporation, (6) Office of the Controller of Currency and (7) Office of Thrift Supervision. In addition, interest rates being offered by lending institutions in the County do not appear to vary significantly within the County, or from interest rates in other counties. The statement should not be construed to mean that identical projects in discrete market areas of the County would be able to obtain the exact same commitments from the financial community. The underlying economics of the localized housing market and the project do result in differing outcomes.

Price of Land

Land prices in the Bay Area and Contra Costa County are among the highest in the nation. Escalating land costs are a major contributor to the increased cost of housing. Developers estimate that land costs have tripled since 1980, to make up 19 percent of a typical Bay Area development costs. A 1986 State Department of Housing and Community Development survey of California development costs found land to be approximately 10 percent of the development costs for single-family homes in East Contra Costa County and 16 percent for multi-family development countywide.

The price of undeveloped land in Contra Costa County varies significantly by location. County land costs are typically higher in the Central County. Residential land prices generally reflect the overall demand for housing in a particular location. The result is that the same house can sell for a high price in a desirable community, and for a lower price in a less prestigious community. Generally the cost of land does not inflate home costs. Rather, high demand for a particular location has an inflationary effect.

Raw land for single-family development in West County typically ranges from \$7,500 (North Richmond) to \$90,000 (El Cerrito, Pinole, and Kensington) per lot. Richmond and Pinole provide

mid-range land prices of \$20,000 to \$50,000 per single-family lot. Land prices for large multifamily projects range from \$8,000 to \$17,000 per unit in Richmond. Raw land costs for a single family developments in Central County range from \$15,000 to \$40,000 per lot in Concord, to \$90,000 per lot in San Ramon. East County raw land costs range from \$25,000 per lot in Brentwood to \$60,000 per lot in Oakley.

Land costs per housing unit often can be reduced by increasing housing unit density. However, since land costs reflect market demand, increasing the intensity of land use (its "highest and best use") can result in higher land values. Allowing higher density residential land use in general plans and zoning ordinances is also no guarantee that such land uses will result; for instance, there are examples of land zoned for multi-family uses being built out at single-family densities. A means of avoiding underbuilding would be to require development to occur at the minimum intensity allowed under the General Plan. This has been accomplished in some areas, most notably, the Pleasant Hill BART Station area. Density bonuses beyond that allowed under the General Plan are available in exchange for the provision of affordable or senior housing.

In some instances, a local government can facilitate the production of low and moderate income housing through the direct means of lowering land costs. For example, land write-downs to developers can reduce production costs. In addition, the county and other public agencies may have surplus property which can be made available for residential uses.

Construction Costs

Construction costs are now rising at the rate of inflation. The U.S. Bureau of Labor's Producer Price Index of materials and components for construction has increased less than 3 percent per year since 1985. In the late 1970's, however, construction costs were rising at approximately 10 percent per year. Construction costs have decreased as a percentage of total development costs, due to increases in land and financing costs. A 1986 HCD survey of California development costs found direct construction costs to be slightly over 50 percent of the total development costs for both multi-family and single-family homes in Contra Costa County. The Contra Costa County Board of Realtors and local developers estimate hard construction costs to be \$50 to \$60 per square foot.

It is interesting to note that recent design and affordable housing contests have discovered that the conventionally and factory-built home, using mostly standard materials, are best able to keep costs down. Exotic materials and futuristic designs have not competed well from the standpoint of construction costs. One long-standing and successful technique for reducing construction costs is the use of manufactured or factory-built housing. A related technique is to pre-cut lumber for conventional assembly on the building site. Among the major reasons that manufactured or pre-cut homes may be more affordable is that they may cost less to produce and that construction time and, hence, the time construction financing costs must be carried by the developer are significantly reduced. Manufactured housing may be used on any residential property in the County, subject to the same conditions as conventional stick-built housing.

Neighborhood Concerns

Residents of Contra Costa County have long had a high level of awareness of public issues, and an inclination to participate in the public decision-making process. This tendency to become involved in public activities is compatible with State law which provides for the public to be involved in planning through public meetings and hearings.

An important reason for the high incidence of public participation is the prevailing concern for the preservation of existing residential neighborhoods and property values. This is true of neighborhoods in all income ranges, whose residents almost universally fear high densities, new types of residential buildings, renters, and homeless people.

Residents of communities also seem to acknowledge housing problems, but have a difficult time supporting available solutions. According to a 1985 a Bay Area Council poll, residents of the Bay Area concurred overwhelmingly (71 percent) with the premise that new housing should be encouraged; however, only 52 percent agreed that the housing should be encouraged in their community. This "split personality" of the public increases the complexity of new housing development and may, depending on the added time or costs of dealing with public concerns, add to the price of new housing. The individual issues include density, design, traffic, noise, fiscal effects, or other environmental concerns. While these all are legitimate concerns, the balancing that occurs with respect to the planning process is at the expense of affordable home prices. Efforts are underway to increase and mobilize public support toward housing, including increased

cooperation and communication among residents, builders, and local officials, and to organize pro-housing coalitions. Housing has become a higher priority. In a 1980 Bay Area Council poll, almost 20 percent of the respondents saw housing as the most serious Bay Area problem, versus less than 10 percent three years before.

The County can address much of its affordable housing needs by avoiding the loss of its existing homes and neighborhoods. One method of preserving existing neighborhoods and their homes is to develop area general plans for communities. The County has historically developed these plans for its distinct communities, most recently in West Pittsburg, Oakley, and North Richmond. This practice is to be encouraged and strengthened as a means of maintaining the sense of maturity and stability, and to ensure that new development that occurs within and adjacent to these neighborhoods is compatible with community goals and countywide goals and objectives. In two instances, East County and the San Ramon Valley, the County has created Regional Planning Commissions to provide for increased local public participation.

A second method of preserving communities is by setting and implementing local comprehensive improvement efforts. Within existing lower income communities, CDBG funds have been used effectively to undertake high priority capital improvements necessary to protect the health and welfare of residents. Such targeting to high priority projects should be continued. Capital improvement efforts through other funds should also be undertaken in a consistent and complementary fashion. The capital improvements efforts often implement community facility plans that have been developed for portions of the County.

Improvements to the housing stock will also help keep the existing housing affordable and neighborhoods viable. Rehabilitating and preserving existing housing through the provision of financial assistance is an important and historically successful means of maintaining neighborhoods. The County's residential rehabilitation programs are largely conducted with funding from the CDBG program. To the extent that lower income persons tend to be renters, priority should be given to incentive programs designed to assist rental property owners, consistent with achieving affordable housing.

A phenomenon of the late 1970's and early 1980's was the conversion of existing apartments to condominiums. While no consensus exists as to the extent and importance of the effects, three

have been identified: first, the effect of conversions on existing tenants; second, buyer protection concerns; and third, effects on the availability and price of rental housing in general. Condominium conversion activity has been lessened between the period 1978 to 1982 and has become almost non-existent since then.

The County adopted an ordinance designed to protect tenants and buyers by specifying information submittal requirements, establishing certain minimum standards for conversion, requiring tenant protection measures to mitigate hardships, and requiring certain findings before conversion approval.

The high demand for housing has put increasing pressure on the existing supply of rental units. High rents, combined with the diminished supply due to condominium conversions and the low volume of new rental construction, have continued to be serious problems in many Contra Costa County communities. Political pressures in communities with similar conditions outside the County have resulted in enactment of rent control ordinances. In essence, communities are confronted with the dilemma of how to balance the needs of renters, particularly lower income renters, who experience hardships, with the free enterprise system of property ownership. In Contra Costa County, however, there is no consensus among local elected officials that rent control is an action appropriate for solving rental housing problems.

Low-income housing, particularly rental housing, has the additional obstacle of being subject to local voter approval. In 1950, the voters of California added Article 34 to the State Constitution which requires that low rent housing projects developed, constructed, or acquired by a State public agency, which includes local jurisdictions and housing authorities, must first receive local voter approval. According to a report by the State Department of Housing and Community Development, Article 34 has constrained the development of low and moderate income rental housing, particularly family housing. A recent court case temporarily jeopardized local ability to obtain Article 34 approval, but was overturned by the State Supreme Court. California is one of the few states in the nation to have such a referendum requirement for low income housing.

Discrimination

Local housing counseling organizations report that housing discrimination against families with children is the most commonly reported complaint. Discrimination on the basis of race or ethnic

status also continues to prevent at least some local residents from renting or buying the home of their choice, judging from complaints received by housing organizations. Discrimination due to age, family status, source of income, religion, sex, disability, and other arbitrary factors also occurs according to the fair housing counseling agencies in this County.

While federal and State law is clear on this subject, discrimination continues to occur because enforcement has only rarely been pursued by the appropriate agencies. The Fair Housing Amendments Act of 1988 improved enforcement of fair housing laws, expanded fair housing law to cover mentally and physically disabled persons and to cover families with children, and required handicapped accessibility features in newly constructed multi-family housing as of March 1991. Most senior housing developments are exempt from the provisions regarding discrimination against families. The Act also restricts a local jurisdiction's ability to prohibit group homes through land use regulations, such as requiring special or conditional use permits. Group homes can only have the same land use permit requirements as a single-family home.

The California Housing Financial Discrimination Act prohibits redlining, the practice by which lending institutions systematically exclude funds from certain neighborhoods, and provides financial remedies to complaints who have experienced discrimination. Various State departments (Departments of Savings and Loans, Real Estate, and Banking) take discrimination complaints for such cases. Private and non-profit organizations provide information, referral, counseling, and legal assistance to individuals on fair housing issues. The County also has two California Housing Resource Boards which engage in fair housing education and monitoring. In recognition of the fact that a Fair Housing Dissemination Program is necessary to guarantee utilization of available programs, the County annually establishes by resolution a Fair Housing Week. In conjunction with adoption this resolution, the County engages in the release of publicity materials regarding the availability of agencies to assist in investigating and remedying discrimination complaints. On an on-going basis, the non-profit fair housing organizations with whom the County contracts undertake an information dissemination program that includes press releases and the provision of information at central locations such as libraries, post offices and other community facilities.

6.9 ENERGY CONSERVATION IN RESIDENTIAL DEVELOPMENT

Energy conservation in residential construction in California is regulated by the California Energy Commission through Title 24 of the California Administrative Code (State Building Code). State conservation standards for new low rise residential buildings and additions were revised in 1982 in response to rising energy costs and new technologies in energy conservation, included new conservation features which must be installed in new residential buildings and greater flexibility in meeting the standards. The Code divides the State into climate zones, reflecting topographic and climatological variations.

Contra Costa County is divided into Zones 3 and 12. Zone 3 is a relatively Mediterranean climate in which the primary aim of the regulations is to allow winter sun into the housing unit, thereby reducing the winter heating loads of utilities. The Zone 3 area is located along the northern rim of the County, north of State Highway 4 from the Antioch Bridge to Martinez, then southwest to San Pablo Dam Road in West County.

Zone 12, which includes all of the interior of the County, is located south and east of Zone 3. This area is subjected to higher summer temperatures. The primary aim of the regulations here is to prevent the summer sun from entering the structure and to minimize the use of air conditioning through insulation, control of south-facing glazing and through window shading.

In Contra Costa County, energy budgets for new structures and additions are specified in an energy compliance inventory. The inventory specifies compliance of building design for gross floor area; roof/ceilings; walls; glazing; moveable insulation; thermal mass; conventional heating and air conditioning equipment; lighting; solar space and domestic hot water heating; and fireplaces. Standards are enforced by the County Building Inspection Department.

In addition to building standards required by Title 24, the development application review process has the potential to contribute to energy conservation through site design and development plan review, when the following measures are included:

- o minimized paved areas and utility and drainage lines,
- o lot orientation with regard to the sun (winter gain, summer avoid),
- o utilization of south facing glazing,

- o avoidance of paving adjacent to buildings,
- o minimized grading,
- o use of natural light and ventilation,
- o solar water heating,
- o provision of hiking and biking trails,
- o provision of wind breaks,
- o shaded west walls,
- o use of deciduous shade trees and drought-tolerant plants,
- o neighborhood pools and other recreation facilities,
- o use of high-efficiency mechanical systems and appliances,
- o provision of street shade trees,
- o encouragement of public transportation,
- o use of energy-efficient building materials, e.g., wood vs. aluminum
- o use of better insulation, and
- o use of glazed windows.

In addition to educating developers on the advantages of energy conservation in project design, local government can extend priority processing to applicants incorporating significant energy conservation features in projects. Localities can also improve energy conservation by encouraging development patterns which reduce automobile use for commuting to employment, such as higher density infill development, mixed used land uses, and job/housing balance policies.

Energy conservation can be encouraged in existing development through weatherization and rehabilitation loan programs. The County's Department of Community Services operates an Energy Crisis Intervention Program which assists approximately 3,000 very low and low income households per year by providing education on energy conservation, minor weatherization improvements (up to \$1,600) to the home, and utility payment assistance. These improvements include ceiling insulation, door and window weather stripping, broken door and window repairs, low-flow showerheads, water heater insulation, thermostats, caulking, and turbin vents.

Energy-efficiency measures in a house can be much more effective if combined with energy saving practices by the building occupant. PG&E offers rate alternatives that provide price incentives for reducing electrical use during the peak hours. For residential users, these rates are called "time-

of-use" rates. The rates require a special meter that is capable of tracking electrical use by time of day. Local government can encourage energy efficiency by requiring or providing incentives to developers to install "time-of-use" meters.

Energy conservation is also an affordability issue. After rent or mortgage payments, energy costs represent the greatest housing cost (ranging from 20 to 30 percent of all housing costs). Energy costs are a greater burden for lower income households, who pay 3 to 4 times as much per dollar of income than typical households, according to an Alliance to Save Energy study entitled Energy Efficiency: A Key to Affordable Housing, dated January 28, 1988. While low income households benefit the most from energy cost reduction measures, energy efficient features tend to be found in higher income owner occupied single-family homes. According to a Department of Energy 1984 Residential Energy Consumption Survey, multifamily households use 40 percent more energy per square foot which can be attributed to the lack of energy conservation features in multifamily buildings.

Energy efficiency measures are cost effective; i.e. they yield cost savings which far exceed the initial investment in terms of energy retrofitting or energy conservation in new construction. Energy use in new energy efficient homes can cut energy use by 75 percent. However, because landlords typically do not pay utility bills, there is less incentive for rental property owners to include energy conservation features in rental developments. Localities could require these features when rental properties change ownership.

6.10 GOALS, POLICIES AND IMPLEMENTATION MEASURES

GOALS

Goals are aspirations that motivate people to plan for a carry out action programs. Typically, goals are general, commonly held and long-range ideals, and are expected to provide on-going direction rather than to be achieved. Goals, however, lead to policies and objectives, which are specific, often quantified, and are intended to be achieved.

The goals statements below are grouped under major subject headings, although they individually pertain to the whole matter of planning for housing.

Adequate and Affordable Housing

- 6-A To make decent, safe, and affordable housing available to all Contra Costa County residents.
- 6-B To make available a wide range of housing types and residential densities to meet the needs of all age groups and household sizes within Contra Costa County's population.
- 6-C To accommodate the housing needs of future, as well as existing, Contra Costa County residents in a manner consistent with available and planned community facilities and services.

Housing Accessibility

- 6-D To ensure that fair housing opportunities prevail for all Contra Costa County residents regardless of age, sex, family status, race, color, creed, national origin, or physical, mental, or developmental disabilities.
- 6-E To make housing available throughout the County, in reasonable proximity to employment centers, for all demographic and economic segments of the County's population.

Housing Conservation and Neighborhood Preservation

- 6-F To conserve and enhance the quality and diversity of neighborhoods within Contra Costa County.
- 6-G To preserve the existing housing supply as a community resource within the financial means of Contra Costa County households.
- 6-H To upgrade substandard housing, and to halt and reverse neighborhood deterioration where appropriate.

Special Housing Needs

- 6-I To make suitable housing available to accommodate Contra Costa County residents with special needs, such as elderly or disabled persons.
- 6-J To ensure that temporary and emergency housing is available.

POLICIES

A policy statement defines the specific direction the County should follow as it moves towards one or more of the targets defined by the goals.

Adequate and Affordable Housing

- 6-1 A balance of housing types, tenures, densities, and price ranges shall be encouraged, supported, and stimulated.
- 6-2 Land use regulations and development review procedures shall be designed to ensure an optimal effect on the quality and cost of housing and neighborhoods.
- 6-3 Appropriate financial and non-financial assistance shall be committed to reducing the cost of development for very low- and low-income housing. Such assistance shall also be considered for moderate-income housing.
- 6-4 The creation of public/private partnerships shall be encouraged for the purposes of facilitating low- and moderate-income housing production.
- 6-5 Available programs to provide housing for low- and moderate- income households shall be utilized and advanced through cooperation and coordination among the County, cities, and regional, State, and federal agencies.
- 6-6 Housing opportunities shall be provided for all economic segments of the population throughout the County.
- 6-7 The County shall coordinate and work with public and private entities in order to encourage the development of communities that are served by adequate and appropriate facilities and services.
- 6-8 The County shall encourage housing that will conserve and more efficiently use energy resources.

Housing Accessibility

- 6-9 Equal opportunity in housing shall be promoted.
- 6-10 Economic development activities, particularly those which improve housing opportunities and their closeness to jobs, shall be promoted.

Housing Conservation and Neighborhood Preservation

- 6-11 Utilization of the existing housing stock for low- and moderate-income shall be encouraged through extensive participation in the Section 8 and other rent subsidy programs in all parts of the County.
- 6-12 Conservation of the County's housing stock shall be promoted.
- 6-13 Neighborhoods shall be provided with housing and community development assistance to arrest decline and stabilize neighborhoods.

Special Housing Needs

- 6-14 Resources to address special housing needs shall be provided.
- 6-15 Farm worker and farm family housing shall be permitted in agricultural areas to meet the needs of locally employed transient and permanent farm workers and family farm workers.

IMPLEMENTATION MEASURES

The implementation measures are specific actions which the County should pursue in carrying out the directives of the goals and policy statements.

Adequate and Affordable Housing

- 6-a Periodically review the County General Plan for its capacity to accommodate a variety of housing types and prices throughout the County.
- 6-b Periodically review the County General Plan and Zoning Ordinance with the intent of removing policies and provisions which may unduly restrict the full development of residential properties in general, and low- and moderate-income housing in particular.
- 6-c Apply the more extensive use of flexible techniques such as Planned Unit Developments and mixed residential and commercial developments to obtain a balance of housing types, tenures, densities, and price ranges.
- 6-d Work with public agencies to identify vacant or surplus public lands that may be suitable for residential developments to maximize their availability at below market prices, where feasible, and appropriate to facilitate low- and moderate-income housing developments.
- 6-e Encourage the creation of second units in appropriate single-family residential areas, in compliance with the County's adopted Residential Second Unit Ordinance, and consider the provision of rehabilitation financial assistance to facilitate the creation of second units to low and moderate income households.
- 6-f Encourage the development of land within the density range specified by the Land Use Element of the General Plan by considering reduction of the number of units below that found in the General Plan only when environmental, site design, infrastructure, or site constraints exist.
- 6-g Review and act upon requests for the conversion of residential rental apartments to condominium ownership in order to mitigate the effect of conversions on tenants, and to establish physical and operational standards for conversions for the purpose of buyer protection in compliance with the County's adopted condominium conversion ordinance.

- 6-h Allow increases in density for developers providing housing for low- and moderate-income households, in accordance with California Government Code Section 65913.4, 65915, and 65917. Consider other incentives such as modified development standards consistent with factors such as age of residents, family size, etc.; fee waivers; and the transfer of development rights.

Incentives may be considered upon submittal of a proposal for the development of low- and moderate-income housing by a developer, or the County, on its own motion, may so propose. Consideration of incentives shall be carried out concurrently with applicable development review procedures. The Community Development Department may, subject to action by the Board of Supervisors, respond to proposals for development incentives for low- and moderate-income housing.

- 6-i Encourage throughout the County the utilization of alternate housing types such as manufactured housing, mobile homes, self-help housing, co-housing, and cooperative housing, through zoning ordinance provisions and other available means.
- 6-j Develop an inventory of, and evaluate mechanisms to preserve existing Single Room Occupancy (SRO) hotels and evaluate the potential for creating new SRO units.
- 6-k Evaluate the feasibility of establishing mechanisms to protect low-cost multi-family rental housing sites.
- 6-l Continue to maintain an inventory of land available for multi-family development.
- 6-m Continue to improve development review procedures to reduce the amount of processing time necessary while ensuring reasonably adequate review time for those interested in participating in the process.
- 6-n Continue to review the County Subdivision and Zoning Ordinances and required development fees, and/or dedications to determine their impacts on the development of low- and moderate-income housing.
- 6-o Continue to use Community Development Block Grant Funds and Housing Authority funds and other funds to reduce the cost of developing very low- and low-income housing.
- 6-p Continue to commit at least 50 percent of the Community Development Block Grant Funds to activities which expand housing opportunities.
- 6-q Coordinate with housing interests to initiate referenda to obtain authority pursuant to Article 34 of the State Constitution so that additional low-income rental housing may be developed, constructed, or acquired utilizing State or local financial assistance.
- 6-r Actively engage in the creation of networks to facilitate housing advocacy to assist in educating people and addressing the housing needs of lower-income people.
- 6-s Consider the waiver, to the extent possible, of development fees for developments serving very low- and low-income households.

- 6-t Encourage other units of government including special service districts to waive development fees, to the extent possible, for developments serving very low- and low-income households.
- 6-u Utilize at least 20 percent of tax increment funds created through the establishment of redevelopment areas to facilitate very low-, low-, and moderate-income housing. Unless other government programs provide the necessary financial assistance to achieve affordability for very low or low income households, at least 20 percent of the units assisted by the Redevelopment Agency must be available for occupancy by very low income households and 14 percent must be available for occupancy by low income households.
- 6-v Review additional areas for their redevelopment potential to eliminate blight, which creates economic or social liabilities on the community, to expand employment opportunities and expand the supply of very low-, low-, and moderate-income housing.
- 6-w Maximize the effect of public funds utilized to facilitate the production of very low-, low- and moderate-income housing by primarily using loans and financial leverage.
- 6-x Pursue the establishment of a housing development fund(s) by establishing a Housing Trust Fund Task Force to review appropriate revenue sources and develop recommendations for establishing by the Board of Supervisors.
- 6-y Continue to consider the issuance of municipal bonds (tax-exempt, taxable, non-profit) to finance homeownership and rental housing in a manner consistent with achieving the desired public purposes of encouraging projects serving low- and moderate-income households.
- 6-z Evaluate the feasibility of a General Obligation bond issue for affordable rental housing for seniors.
- 6-aa Continue to provide available planning and program information to developers and sponsors interested in low- and moderate-income housing.
- 6-ab Encourage the formation of, and continue to work with, broad-based and single-purpose, non-profit housing development groups by providing appropriate project based financial assistance.
- 6-ac Continue to provide available planning and program information to cities in developing their Housing Elements and housing programs.
- 6-ad Continue to work with the Association of Bay Area Governments to organize and implement area-wide housing opportunity efforts.
- 6-ae Continue to prepare an annual Housing Assistance Plan (HAP), as part of the County application for federal assistance under the Community Development Block Grant program (the HAP documents the condition of the County housing stock, the housing assistance needs of its low-income and moderate-income households, and establishes goals for the provision of assistance in meeting the needs).

- 6-af Continue to participate in appropriate housing programs initiated by agencies of the State of California, including but not limited to the Department of Housing and Community Development and the California Housing Finance Agency.
- 6-ag Continue to participate in appropriate housing programs initiated by agencies of the U.S. Government, including but not limited to U.S. Department of Housing and Urban Development, and Farmers Home Administration.
- 6-ah Continue to use the Housing Authority as a liaison between the County and its cities relative to the need for affordable housing and the need for additional land use opportunities to accommodate rental housing.
- 6-ai Continue to work with the County's federal and State legislative delegation to develop and encourage the development of appropriate housing legislation.
- 6-aj Encourage the spatial deconcentration of low- and moderate-income households throughout the County.
- 6-ak Encourage the use of available housing assistance funds to assist in the stabilization or revitalization of neighborhoods containing concentrations of low- and moderate-income households where a comprehensive neighborhood preservation program is being undertaken.
- 6-al Encourage the development of mixed-income family housing developments, to the extent feasible given financial constraints and funding programs.
- 6-am Implement components of the Public Facilities/Services Element of the General Plan to serve as guides for the development and financing of public facilities and services to developing areas.
- 6-an Develop measures to mitigate the impact of new development on public facilities and services.
- 6-ao Continue to emphasize the preservation and maintenance of existing communities by utilizing, where appropriate, Community Development Block Grant Funds and other funds to provide for public improvements that will protect residences and the health and safety of its residents.
- 6-ap Continue to encourage and participate actively in the development of infrastructure financing plans tailored to specific local circumstances.
- 6-aq Review existing and future specific or area plans, as well as proposed amendments to the General Plan, in order to identify opportunities to provide added residential density without disrupting the character of established areas.
- 6-ar Encourage the use of cost effective energy efficient features in new housing developments and on existing homes through the implementation of Title 24 of the California Administrative Code as it pertains to energy conservation.

- 6-as Utilize the development review process as a means of encouraging and obtaining appropriate energy conservation and site design measures.

Housing Accessibility

- 6-at Continue to encourage and support responsible organizations which educate, inform, mediate and otherwise assist in the promotion of fair housing and the enforcement of fair housing laws.
- 6-au Monitor the effects of industrial and commercial employment on housing demand, transportation, urban services and other factors.
- 6-av Encourage the provision of an appropriate mix of housing densities, types and prices in reasonable proximity to employment centers.

Housing Conservation and Neighborhood Preservation

- 6-aw Encourage the County Housing Authority and non-profit Fair Housing groups to continue to provide apartment owners and managers with information on the Section 8 and other rent subsidy programs.
- 6-ax Encourage the County Housing Authority to continue to pursue the federal and State governments in order to obtain additional rent subsidy funds.
- 6-ay Develop a housing needs analysis and response program regarding (1) assisted family rental housing developments eligible to convert to other uses due to termination of subsidy contracts, mortgage payment expiration of use restrictions; and (2) the conversion of mobile home parks to other uses. Establish an Affordable Housing Preservation Project to explore mechanisms by which the County and cities can avert or mitigate loss of existing affordable rental housing and mobile homes.
- 6-az Continue to support housing rehabilitation programs providing zero and low-interest loans to lower-income homeowners.
- 6-ba Continue and expand existing rental housing rehabilitation programs that offer loans to investor owners who provide lower-income housing.
- 6-bb Pursue appropriate federal and State housing rehabilitation funds. Explore the feasibility of obtaining housing rehabilitation funds for homeowners and renters through the issuance of tax-exempt revenue bonds, or by using available State programs.
- 6-bc Continue the enforcement of the Housing, Electrical, and Fire Prevention Codes, and Health and Safety Regulations by appropriate agencies, and explore the feasibility of reviewing such codes and recommending appropriate changes to lower building costs.
- 6-bd Evaluate the feasibility of establishing a code compliance program in which housing code inspections are completed prior to the rental of a previously vacant unit.

- 6-be Continue to encourage appropriate self-help housing development efforts.
- 6-bf Encourage financial institutions to increase the supply of conventional financing in low- and moderate-income neighborhoods specifically, and encourage lenders participating in the Community Investment Fund to concentrate their lending activity in neighborhoods where low- and moderate-income households predominate.
- 6-bg Explore the feasibility of postponing property tax adjustments due to the rehabilitation of housing units through public programs.
- 6-bh Encourage the residence of owners in rental developments by considering the provision of priority access to rental housing rehabilitation loans.
- 6-bi Study alternative measures to ensure the health and safety of residents of older mobile homes that are substandard.
- 6-bj Continue to use Community Development Block Grant funds for public improvements in designated lower-income areas.
- 6-bk Periodically review existing and proposed general plans, development applications, ordinances, and implementation programs to determine whether they are supportive of programs to preserve neighborhoods.
- 6-bl Seek other funding sources to augment the Community Development Block Grant funds in undertaking physical improvement activities that further neighborhood preservation.
- 6-bm Continue to encourage the participation of local residents in planning and developing neighborhood preservation strategies.
- 6-bn Continue to encourage the development of new housing and other appropriate uses on undeveloped land within existing neighborhoods.
- 6-bo Continue to encourage private development that furthers and supports the neighborhood preservation process.
- 6-bp Conduct surveys of communities on a periodic basis to detect signs of early decline, and to evaluate the impact of previous neighborhood preservation efforts.

Special Housing Needs

- 6-bq Utilize Community Development Block Grant funds, Housing Authority funds, and other funds to assist feasible projects designed to address special housing needs for the mentally and physically disabled, farm workers, elderly, homeless, large families, substance abusers, and female headed households..
- 6-br Evaluate the feasibility of a housing rehabilitation program designed to provide for the needs of the physically handicapped.

- 6-bs Continue to support innovative semi-independent living programs such as congregate and shared housing for elderly and other population groups.
- 6-bt Support non-profit groups and housing organizations in organizing and implementing programs which foster or implement self-help projects that create or maintain rural and urban housing opportunities.
- 6-bu Continue to encourage and support the provision of temporary emergency shelter and transitional housing with services to assist in achieving self sufficiency for the homeless and others experiencing short-term shelter needs.
- 6-bv Continue to prepare an annual Comprehensive Homeless Assistance Plan, assessing housing needs of, and developing strategies for addressing the needs of, homeless populations.
- 6-bw Explore mechanisms to assist prospective and current foster parents in providing adequate and safe foster homes.
- 6-bx Offer incentives for developers providing housing for senior citizens, such as increases in density in addition to that specified in the Land Use Element of the General Plan, including the density bonuses provided for in California Government Code Section 65915 et seq., and modified development standards such as reduction in required parking, fee waivers, etc. Incentives may be considered upon submittal of a proposal for the development of senior citizen housing by a developer, or the County, on its own motion, may so propose. Consideration of incentives shall be carried out concurrently with applicable development review procedures. The Community Development Department may, subject to action by the Board of Supervisors, respond to proposals for development incentives for senior citizen housing.
- 6-by Continue to participate in the task force comprised of County, city, and non-profit agencies; and private individuals to assess the needs of farmworkers and propose alternative measures to address the needs.
- 6-bz Review the County Ordinance Code to ensure that farm worker and farm family member housing are permitted in agricultural areas as provided by Policy 8-48.

Quantified Objectives

Based on an average housing unit production in the unincorporated areas of the County of 1,527 units per year between 1980 and 1989, an estimated 11,070 units could be produced in the 7-1/4-year time period from January 1, 1988 to April 1, 1995. This estimate exceeds the housing needs projection of 6,447 units for the unincorporated areas of the County by 4,623 units. It appears that the County will have no difficulty meeting its overall housing needs. Table 6-17 presents the County's objectives in providing for the housing needs of very low, low, and moderate income

TABLE 6-17
1990 QUANTIFIED OBJECTIVES BY NUMBER OF UNITS
(1990-1995)

	Income Level Assisted			
	<u>Very Low</u>	<u>Low</u>	<u>Moderate</u>	<u>Total</u>
NEW PRODUCTION				
<u>Homeownership</u>				
Sweat equity	30	120		150
Mortgage Revenue Bonds	20	220	560	800
CHAP	30	30		60
Subtotal	<u>80</u>	<u>370</u>	<u>560</u>	<u>1,010</u>
 <u>Rental</u>				
Second units		100	75	175
Redevelopment	50			50
LIHTC	250			250
Mortgage Revenue Bonds	100			100
Sect. 202	100			100
SRO	50			50
RHCP		50		50
Subtotal	<u>250</u>	<u>450</u>	<u>75</u>	<u>725</u>
 NEWLY ASSISTED				
<u>Homeownership</u>				
Mortgage Revenue Bonds		200	200	400
Mortgage Credits			500	500
Subtotal	<u>0</u>	<u>200</u>	<u>700</u>	<u>900</u>
 <u>Rental</u>				
Section 8/vouchers	800			800
Subtotal	<u>800</u>	<u>0</u>	<u>0</u>	<u>800</u>
 REHABILITATION				
<u>Homeowner</u>				
CHRP-0		25		25
County Rehab Programs	300	150		450
Subtotal	<u>300</u>	<u>175</u>	<u>0</u>	<u>475</u>
 <u>Rental</u>				
Nonprofits	60	30		90
LIHTC		50		50
SRO	150			150
CHRP-R	50	50		100
County Rehab Programs	200	80		280
Public Housing	500			500
Subtotal	<u>960</u>	<u>210</u>	<u>0</u>	<u>1,170</u>
 Total				
	<u>2,390</u>	<u>1,405</u>	<u>1,335</u>	<u>5,130</u>

TABLE 6-17 (Continued)

Source: Contra Costa Community Development Department

CHAP = California Housing Assistance Program
LIHTC = Low Income Housing Tax Credit
SRO = Single Room Occupancy Hall
RHCP = Rental Housing Construction Program
CHRP-O = California Housing Rehabilitation Program

households. These objectives surpass the level of need identified by ABAG for the unincorporated County from 1988 to 1995.

6.11 HOUSING PROGRAM

This section will organize the policies and implementation measures into a comprehensive housing program. The housing program builds upon existing programs and plans, provides for the coordination of activities by various public, quasi-public, or private agencies and organizations, and provides for the study of problems and measures which are beyond the scope of the program at its outset.

To a greater extent than the General Plan as a whole, the Housing Element programs require local, federal, and State funding to be implemented (see Table 6-18). The primary source of housing funds for local housing programs in the County is the Community Development Block Grant program. Housing Authority Reserve Funds provide a flexible source of supplementary funds. Substantial private capital may and is being accessed through the issuance of tax-exempt bonds. With the establishment of redevelopment area, a portion of the tax increment funds accruing to the agency is also be available for housing. In addition, the County may consider the appropriation of General Fund and revenue sharing monies for high priority housing efforts, in addition to the development of a Housing Trust fund.

TABLE 6-18

CONTRA COSTA HOUSING PROGRAM (1990 - 1995)

Policy	Implementation Measure		Implementing Agency(ies)	Funding Source	Time Frame
6-1	6-a	Review County General Plan as to its capacity to accommodate all housing types and prices	Community Development Dept.*	General Fund, State Funds	annually •
6-1	6-b	Review County General Plan and Zoning Ordinance to remove obstacles to low and moderate-income housing development	Community Development Dept.	General Fund	On-going
6-1	6-c	Use more extensively flexible techniques such as PUD's and mixed use	Community Development Dept.	General Fund	On-going
6-1	6-d	Identify vacant or surplus public lands suitable for low and moderate-income housing	Community Development Dept. Public Works Department Housing Authority and other public agencies	General Fund, CDBG, other	1992 •
6-1	6-e	Encourage second units	Community Development Dept.	General Fund	On-going
6-1	6-f	Encourage maximum acceptable development densities	Community Development Dept.	General Fund	On-going
6-1	6-g	Mitigate impacts on tenants and establish standards to protect buyers in condominium conversion approval process	Community Development Dept. State Funds	General Fund,	On-going
6-1	6-h	Provide density bonuses and other land use incentives. Adopt procedures implementing 1989 state law	Community Development Dept.	General Fund	On-going, 1990
6-1	6-i	Encourage alternative housing types	Community Development Dept.	General Fund	On-going
6-1	6-j	Evaluate potential to preserve and develop single room occupancy hotels	Community Development Dept.	General Fund	1991
6-1	6-k	Evaluate mechanisms to project rental housing sites	Community Development Dept.	General Fund	1993 •
6-1	6-l	Update multi-family site inventory	Community Development Dept.	CDBG	1992 •
6-2	6-m	Improve development review procedures	Community Development Dept., Public Works Department, Building Inspection	General Fund	1990
6-2	6-n	Review Zoning and Subdivision Ordinance and development fees to determine effect on development of low and moderate income housing	Community Development Dept.	General Fund	On-going
6-3	6-o	Use CDBG and Housing Authority funds to reduce development costs for lower income housing	Community Development Dept. Housing Authority	CDBG, Housing Authority	On-going
6-3	6-p	Commit at least 50% of CDBG funds to housing to expand housing opportunities	Board of Supervisors, Community Development Dept. Housing and Community Development Advisory Committee	CDBG	annually •
6-3	6-q	Evaluate feasibility of Article 34 referenda to authorize low income rental development	Housing Authority	Housing Authority funds	1992 •
6-3	6-r	Encourage networks to facilitate lower-income housing advocacy	Housing Authority non-profit housing organizations	Housing Authority Funds	On-going
6-3	6-s	Consider waiver of development fees for lower income housing developments	Community Development Dept. Public Works Dept. Building Inspection Dept.	General Fund	On-going

*Community Development Department includes, by reference, consideration and appropriate action by the Planning Commissions for items within their charge as provided by the Board of Supervisors.

Policy	Implementation Measures		Implementing Agency(ies)	Funding Source	Time Frame
6-3	6-t	Encourage other units of local government to consider fee waivers	Board of Supervisors, Housing Authority	Housing Authority Funds	On-going
6-3	6-u	Use at least 20% of redevelopment area tax increment funds for low and moderate income housing	Redevelopment Agency	Tax Increment	On-going
6-3	6-v	Review additional areas for their redevelopment potential	Redevelopment Agency	Tax Increment	On-going
6-3	6-w	Maximize leveraging of public funds used for lower and moderate income housing production	Community Development Dept. Housing Authority, Redevelopment Agency	CDBG, Housing Authority Funds, Tax Increment Funds	On-going
6-3	6-x	Establish housing development fund(s)	Board of Supervisors Community Development Dept. Housing Authority	General Fund CDBG Housing	1991
6-4	6-y	Continue to issue tax exempt bonds to finance homes (rental and ownership)	Community Development Dept.	Bond Proceeds	annually •
6-4	6-z	Consider General Obligation bond issue for senior rental housing	Community Development Dept.	Bond Proceeds	1992
6-4	6-aa	Provide available planning and program information to affordable housing developers	Community Development Dept. Housing Authority Funds	General Revenue CDBG, Housing	if possible annually •
6-4	6-ab	Encourage non-profit housing development corporations	Board of Supervisors Community Development Dept. Housing Authority	CDBG, Housing Authority Funds, Private Funds	On-going
6-5	6-ac	Assist cities in developing Housing Elements and programs	Community Development Dept. Housing Authority	CDBG, Housing Authority Fund	On-going
6-5	6-ad	Work with ABAG to implement regional housing efforts	Community Development Dept.	CDBG, General Revenue	On-going
6-5	6-ae	Continue to prepare Housing Assistance Plans	Community Development Dept.	CDBG	On-going
6-5	6-af	Continue participation in state housing programs	State of California, Community Development Dept., Housing Authority	State Funds	On-going
6-5	6-ag	Continue participation in federal housing programs	Federal Government, Community Development Dept. Housing Authority	Federal Funds	On-going
6-5	6-ah	Use Housing Authority as rental housing liaison with cities	Housing Authority	Housing Authority Funds	On-going
6-5	6-ai	Work with legislative delegation to develop and encourage housing legislation	Board of Supervisors Community Development Dept. Housing Authority	General Fund, CDBG, Housing Authority Funds	On-going
6-6	6-aj	Encourage spatial deconcentration of low and moderate income households	Board of Supervisors Community Development Dept. Housing Authority	General Funds, CDBG, Housing Authority Funds	On-going
6-6	6-ak	Encourage use of housing assistance funds to further neighborhood revitalization efforts	Board of Supervisors Community Development Dept. Housing Authority	General Funds, CDBG, Housing Authority Funds	On-going
6-6	6-al	Encourage development of mixed income family housing	Community Development Dept. Housing Authority	General Funds, CDBG, Housing Authority Funds	On-going
6-7	6-am	Implement Public Facilities Element/Services Element	Community Development Dept.	General Funds, Private Funds	On-going
6-7	6-an	Consider new development mitigation measures	Board of Supervisors Community Development Dept. Public Works Dept.	General Funds	On-going
6-7	6-ao	Continue providing physical improvements in existing communities	Board of Supervisors Community Development Dept.	General Funds, Capital Improvement Funds, CDBG	On-going
6-7	6-ap	Continue to develop infrastructure financing plans	Board of Supervisors, Community Development Dept. Public Works, other appropriate agencies	General Funds, other special funds as appropriate	On-going

Policy		Implementation Measure	Implementing Agency(ies)	Funding Source	Time Frame
6-7	6-aq	Review Specific or Area Plans to maximize residential development opportunities	Community Development Dept.	General Funds	On-going
6-8	6-ar	Encourage use of cost-effective energy efficient features in homes	Board of Supervisors, Building Inspection Dept., Community Services	General Funds	On-going
6-8	6-as	Utilize development review process to encourage energy conservation	Board of Supervisors Community Development Dept.	General Funds	On-going
6-9	6-at	Support fair housing organizations	Board of Supervisors Community Development Dept.	CDBG, private funds	On-going
6-10	6-au	Monitor effects of industrial and commercial employment on housing demand	Community Development Dept.	General Funds	5 year cycle •
6-10	6-av	Encourage housing in proximity to employment	Community Development Dept.	General Funds	On-going
6-11	6-aw	Provide information on Section 8 and other rent subsidy programs	Housing Authority, housing interest groups	Housing Authority Funds, CDBG, private funds	On-going
6-11	6-ax	Pursue additional rent subsidy funds	Housing Authority	Housing Authority Funds	On-going
6-12	6-ay	Analyze and develop program to preserve assisted rental housing which could convert to non-low income housing to meet state January 1, 1992 deadline	Community Development Dept., Housing Authority	General Funds, state funds	1992 •
6-12	6-az	Continue housing rehabilitation programs for homeowners	Community Development Dept. Building Inspection Dept.	CDBG, state and federal funds	On-going
6-12	6-ba	Continue and expand housing rehabilitation for investor owned properties	Community Development Dept., Housing Authority	CDBG, Housing Authority funds, other federal and state funds	On-going
6-12	6-bb	Pursue federal and state housing rehabilitation funds	Community Development Dept., Building Inspection Dept. Housing Authority	Federal and state funds	On-going
6-12	6-bc	Continuing enforcement of building codes. Explore building code changes	Building Inspection Dept., Health Department, Fire Fire Districts	General Revenue, Special District Funds	On-going
6-12	6-bd	Evaluate code compliance program	Community Development Dept., Building Inspection Dept.	CDBG	1994 •
6-12	6-be	Encourage self-help housing developments	Board of Supervisors		On-going
6-12	6-bf	Encourage lenders to increase the supply of financing in low and moderate income neighborhoods	Board of Supervisors		On-going
6-12	6-bg	Explore feasibility of postponing property tax adjustments on housing units rehabilitated with public funds	Assessors, Treasurer-Tax Collector, Community Development Dept., Housing Authority	General Revenue	1994 •
6-12	6-bh	Consider loan priority for owner-occupied rental projects	Board of Supervisors		On-going
6-12	6-bi	Study safety measures for older mobile homes	County Administrator, Building Inspection Dept., Community Development Dept., Housing Authority	General Revenue	1992 •
6-13	6-bj	Continue using CDBG funds for improvements in lower income areas	Community Development Dept.	CDBG	On-going
6-13	6-bk	Review existing and proposed plans for their consistency with neighborhood preservation	Community Development Dept.	General Funds	On-going
6-13	6-bl	Seek other funding for neighborhood physical improvements	Community Development Dept., Public Works Dept.	Other funds	On-going
6-13	6-bm	Encourage citizen participation on neighborhood preservation	Board of Supervisors, Community Development Dept.		On-going

<u>Policy</u>		<u>Implementation Measure</u>	<u>Implementing Agency(ies)</u>	<u>Funding Source</u>	<u>Time Frame</u>
6-13	6-bn	Encourage infill in existing neighborhoods	Board of Supervisors, Community Development Dept.		On-going
6-13	6-bo	Encourage private development which furthers neighborhood preservation	Board of Supervisors, Community Development Dept.		On-going
6-13	6-bp	Survey communities to detect signs of early decline	Community Development Dept.	CDBG, General Revenue	On-going
6-14	6-bq	Assist feasible projects addressing special housing needs	Board of Supervisors, Community Development Dept. Housing Authority	CDBG, Housing Authority Funds	On-going
6-14	6-br	Evaluate a handicapped housing rehabilitation program	Community Development Dept. handicapped organizations	CDBG	
6-14	6-bs	Encourage innovative semi-independent living programs	Board of Supervisors	CDBG, General Funds	On-going
6-14	6-bt	Support housing organizations undertaking self-help housing projects	Board of Supervisors	CDBG, General Funds	On-going
6-14	6-bu	Explore mechanisms to address foster parents' housing needs	Community Development Dept. Department of Social Services	General Funds, bond proceeds	On-going
6-14	6-bv	Continue to prepare Comprehensive Homeless Assistance Plans	Community Development Dept.	CDBG	On-going
6-14	6-bw	Encourage provision of shelter for homeless and others in temporary need of shelter	Board of Supervisors, Social Services, Community Development Dept., Non-Profit Groups, Housing Authority	CDBG, General Funds	On-going
6-14	6-bx	Offer incentives to developers providing senior housing	Board of Supervisors Community Development Dept.		On-going
6-15	6-by	Participate in task force to address farmworker housing needs	Board of Supervisors Community Development Dept. Housing Authority		On-going
6-15	6-bz	Review ordinance code regarding permitting farmworker housing in agricultural areas	Community Development Dept.	General Funds	On-going •

7. PUBLIC FACILITIES/SERVICES ELEMENT

TABLE OF CONTENTS

	<u>Page</u>
7.1 INTRODUCTION	7-1
Legal Authority	7-1
7.2 RELATIONSHIP TO OTHER GENERAL PLAN ELEMENTS	7-1
7.3 RELATIONSHIP TO OTHER GENERAL PLAN DOCUMENTS	7-2
7.4 ORGANIZATION OF PUBLIC FACILITIES/SERVICES ELEMENT	7-2
7.5 FINANCING IMPROVEMENTS AND PUBLIC SERVICES	7-3
Introduction	7-3
Goals	7-4
Policies	7-5
Implementation Measures	7-6
7.6 WATER SERVICE	7-7
Introduction	7-7
Goals	7-13
Policies	7-15
Implementation Measures	7-16
7.7 SEWER SERVICE	7-17
Introduction	7-17
Goals	7-24
Policies	7-27
Implementation Measures	7-28
7.8 DRAINAGE AND FLOOD CONTROL	7-29
Introduction	7-29
Goals	7-32
Policies	7-35
Implementation Measures	7-36
7.9 PUBLIC PROTECTION	7-38
Introduction	7-38
Goals	7-39
Policies	7-40
Implementation Measures	7-40

TABLE OF CONTENTS (Continued)

	<u>Page</u>
7.10 FIRE PROTECTION	7-41
Introduction	7-41
Goals	7-46
Policies	7-46
Implementation Measures	7-50
7.11 SOLID WASTE MANAGEMENT	7-52
Introduction	7-52
Goals	7-57
Policies	7-58
Implementation Measures	7-59
7.12 HAZARDOUS WASTE MANAGEMENT	7-61
Introduction	7-61
Goals	7-64
Policies	7-67
Implementation Measures	7-71
7.13 SCHOOLS	7-73
Introduction	7-73
Goals	7-74
Policies	7-74
Implementation Measures	7-77
7.14 CHILD CARE	7-77
Introduction	7-77
Goals	7-78
Policies	7-78
Implementation Measures	7-79
7.15 OTHER PUBLIC FACILITIES	7-79
Introduction	7-79
Goals	7-80
Policies	7-80
Implementation Measures	7-83

7. PUBLIC FACILITIES/SERVICES ELEMENT

7.1 INTRODUCTION

This Public Facilities/Services Element establishes goals and policies that address the vital infrastructure and public services that must be provided to maintain the quality of life of existing and future Contra Costa County residents.

LEGAL AUTHORITY

The State General Plan Law (Government Code Section 65303) specifies the elements that must be included in County and City general plans. However, local governments may adopt any other elements or address any other subjects which relate to the physical development of the county or city. Thus, though not required by law, the inclusion of this Public Facilities and Services Element is optional. Once an optional element is adopted, it carries the same importance as the required elements and must be internally consistent with the other elements of the Plan.

7.2 RELATIONSHIP TO OTHER GENERAL PLAN ELEMENTS

The Public Facilities/Services Element is most closely related to the Land Use, Growth Management and the Transportation and Circulation Elements, since it supports the goals and policies of those elements related to growth management and the coordination of land use, circulation and public facilities. Consistency with the growth management program is intended to incorporate the requirements set forth in Measure C-1988 as discussed in the Growth Management Element. Under the Growth Management Element, in addition to traffic level of service standards applicable to new growth, performance standards must be maintained through capital improvement projects, for the following items, based on local criteria: fire, police, parks, sanitary facilities, water, and flood control. This program provides the basis for policies which have been adopted for this element. The voters in Measure C - 1990 reaffirmed that growth management should be applicable

to provide assurances that these public facilities will be able to be maintained at various performance standards. Measure C - 1990 is discussed in the Land Use Element and throughout this General Plan. This measure, which establishes a 65/35 Land Preservation Standard for nonurban and urban development, respectively, provides that nonurban uses will include "facilities for public purposes, whether privately or publicly funded or operated, which are necessary or desirable for the public health, safety, or welfare or by state or federal law. . ." (See text in Section 1.10) As a result, the public facility goals, policies and implementation measures are correlated with the Land Use Element.

Consistency with the Safety Element is achieved through goals and policies which afford protection related to police and fire service, threats from flooding, avoidance of health hazards associated with inadequate provision of potable water and sanitary sewer facilities, and the management of hazardous materials. Consistency with the Housing Element is achieved through the provision of infrastructure supporting the shelter role of housing. Consistency with the Open Space and Conservation Elements is guaranteed through the policies related to premature extension of infrastructure and public services.

7.3 RELATIONSHIP TO OTHER GENERAL PLAN DOCUMENTS

The goals, policies and implementation measures contained in this element are intended to guide planning for public and private projects that are subject to either approval of the County Planning Agency or to review by County staff, although they may be under the jurisdiction of other public agencies operating in the County. Such goals, policies and implementation measures are further intended to be in accordance with the other elements of the General Plan, as well as with other planning documents, including the County Hazardous Waste Management Plan (1988).

7.4 ORGANIZATION OF PUBLIC FACILITIES/SERVICES ELEMENT

The Public Facilities/Services Element is organized into functional sections which address the following issues:

- o financing improvements and public services;
- o water service;
- o sewer service;
- o drainage and flood control;

- o public protection;
- o fire protection;
- o solid waste management;
- o hazardous waste management;
- o parks and recreation facilities;
- o schools and childcare; and
- o other public facilities.

Each section is divided into subsections that include an introduction with background information, mapping of facilities or services (if applicable), goals, policies and a listing of implementation measures.

7.5 FINANCING IMPROVEMENTS AND PUBLIC SERVICES

INTRODUCTION

The issue of financing capital improvements and funding ongoing public services relates to other elements of the General Plan in a number of ways:

- o The Land Use Element map defines the extent of urban growth and development throughout the County. The designation of urban land use will create a proportional need for additional facilities and services.
- o As the basic policy document regulating growth and development, the General Plan contains service standards that establish linkage between new development accommodated in the Plan and the quantity of new facilities and/or services required to meet demands created by the new development.
- o The General Plan also contains specific reference to actual improvements that will require funding and financing, most notably the County's transportation system network.
- o The General Plan provides an overall framework for programs which implement specific recommended policies, including a variety of programs involving funding services and financing.

This section of the Public Facilities/Services Element includes goals, policies, and implementation measures which address how needed facilities and services will be financed. The subject of financing capital improvements and public services within Contra Costa County is complex, given the large number of local jurisdictions involved. Municipal services are provided by 18 cities as well

as a large number of special districts and county service areas which provide utilities, fire protection, parks and recreation, and other services.

At present, Contra Costa County must fund a variety of county-wide programs including social services and welfare, health services, and criminal justice. These functions dominate the County's budget. The County must also provide municipal services to urbanized unincorporated areas. As such, the County operates at a number of levels, providing its mandated county-wide services, providing public services to the unincorporated areas, and also serving as a coordinating agency, linking the activities of State agencies, the cities, the County, and the regional special districts.

As urban growth occurs in unincorporated areas, such as those areas that are established by this General Plan, demands for public services will continue to increase. The County does not have an adequate general revenue base to pay for typical public services standards in these areas. Demands for county-wide social and welfare services, health services, and criminal justice have also grown substantially, due to demographic changes, growth, and cost inflation. To allow major areas of new development will require special financing mechanisms, such as the establishment of Mello Roos districts, etc.

While public and county-wide service demands have been growing in the County, State and federal support for infrastructure improvements has diminished or disappeared entirely. Major grant programs for sewer and water improvements and highway construction have all but been eliminated. Additionally, State and federal funding for mandated human and social services programs have been cut back. Federal Revenue Sharing, once a major source of County funding for discretionary purposes, has also been discontinued. Article XIII A of the State Constitution (Proposition 13, passed by the voters in 1978), in addition to other more recent legislation, has further constrained the ability of County governments to raise public revenue.

To assure adequate financing of public services and facilities for current and future goals of the General Plan, the following goals, policies and implementation procedures have been developed.

GOALS

- 7-A. To give a high priority to funding quality civic, public, and community facilities which serve a broad range of needs throughout the County.

- 7-B. To permit development in unincorporated areas only when financing mechanisms are in place or committed which assure that adopted performance standards in the growth management program will be met.
- 7-C. To utilize equitable financing methods which assure that adopted performance standards are achieved.
- 7-D. To cooperate with other local jurisdictions to promote the most cost effective methods of providing public facilities necessary for supporting the economic, social, and environmental well being of the County and its residents.
- 7-E. To resolve conflicts with other jurisdictions regarding the location of revenue generating land uses.

POLICIES

- 7-1. New development shall be required to pay its fair share of the cost of all existing public facilities it utilizes, based upon the demand for these facilities which can be attributed to new development.
- 7-2. New development, not existing residents, should be required to pay all costs of upgrading existing public facilities or constructing new facilities which are exclusively needed to serve new development.
- 7-3. Broad-based funding sources for public facilities shall be sought which benefit both existing, new, and future residents of the County.
- 7-4. The financial impacts of new development or public facilities should generally be determined during the project review process and may be based on the analysis contemplated under the Growth Management Element or otherwise. As part of the project approval, specific findings shall be adopted which relate to the demand for new public facilities and how the demand affects the service standards included in the growth management program.
- 7-5. The County shall take an active role in coordinating major infrastructure construction within the County, particularly the transportation system network and extension of sewer and water service, to assure consistency of these improvements with the General Plan.
- 7-6. When adopting, amending and imposing impact fees and developer exactions, the County shall consider the effects of such fees and exactions upon project economics, the County's development goals and housing needs.
- 7-7. The County shall develop and adopt a Capital Improvement Program which programs and prioritizes specific improvements to public facilities which are the responsibility of the County.
- 7-8. The County shall seek methods for cities to assume a greater share of the costs for county-wide services including social and welfare services, health services, and criminal justice.

- 7-9. The County shall establish and implement an equitable and standardized approach to property tax sharing with cities during the annexation process.
- 7-10. The County shall cooperate with cities during the establishment of redevelopment projects to assure that fiscal impacts upon the County are minimized.
- 7-11. A comprehensive financing plan which assures that needed public facilities are adequately financed, shall be included in all new specific plans and area general plans adopted by the County.
- 7-12. The County shall attempt to cooperate with cities when processing applications for subdivisions or other large projects located within a city's Sphere of Influence.
- 7-13. The County shall stress financing strategies that maximize use of pay-as-you-go methods to gain the most benefit from available revenue.
- 7-14. The County shall recover all costs for administrative and technical services provided in the development review process through the use of fees and charges, whenever possible.
- 7-15. The County shall avoid using General Fund revenues for funding the incremental costs of new municipal services in developing areas.

IMPLEMENTATION MEASURES

Master Tax Sharing Agreement

- 7-a. Prepare and adopt a standard Master Tax Sharing Agreement for processing annexation applications. The agreement should be reviewed with cities to facilitate cooperation. Annexations and associated development activity subject to the agreement should be consistent with the County General Plan.

Redevelopment Fiscal Review

- 7-b. Establish a multi-departmental team to review new redevelopment projects. Establish standard fiscal criteria for evaluating such projects and establishing fiscal detriment, if any. If such detriment is determined, negotiate with redevelopment agency to mitigate this detriment.

Transportation Impact Fee

- 7-c. Review the Transportation Area of Benefit Fee Ordinance to assure consistency with AB 1600. Future ordinance amendments should assure that new development will fund a fair share of transportation improvements which are required to serve the new development.

Intergovernmental Coordination

- 7-d. Maintain an effective liaison and improve cooperation with the cities and special districts serving the County, as part of an effort to maintain high quality services and implement the General Plan.
- 7-e. As part of the annual review of the Capital Improvement Program, include a review under Government Code Section 65401, listing all capital projects sponsored by other jurisdictions for the following year. Additionally, the County should make a finding relative to the consistency of projects with the County's General Plan reviewed under Government Code, Section 65402.
- 7-f. Comment on any proposed capital improvements found inconsistent with the County's General Plan to the sponsoring agency.

Capital Improvement Program

- 7-g. Prepare and adopt a Capital Improvement Program that compiles the capital improvements planned for construction over the next five year period by County agencies, including cost estimates, the phasing of specific improvements and associated costs, and methods with which specific improvements will be financed.

Development Review/Plan Preparation Process

- 7-h. Amend the development review and plan preparation process to include consideration of project impacts upon public facilities, and proposed financing methods. Where negative fiscal impacts are indicated, include specific mitigation measures as conditions of project approval, or carefully consider the appropriateness of approval, consistent with the facilities standards established in the Growth Management Element.

7.6 WATER SERVICE**INTRODUCTION**

Water service in Contra Costa County is provided either by special service districts or by nine municipalities. There are two major water providers in the County: the East Bay Municipal Utility District (EBMUD) and the Contra Costa Water District (CCWD). EBMUD delivers water directly to its customers after it is treated. CCWD provides treated water services to several cities in the Central County area and several city and other water agencies buy "raw," untreated water from CCWD, treat it, and then sell it to their own local customers. CCWD is not limited to providing domestic urban water supplies. Other services include wholesale treated water, reclaimed water, industrial, agricultural and landscaping irrigation water supplies.

EBMUD provides treated water to all of western Contra Costa County, the Lamorinda area, portions of Walnut Creek and Pleasant Hill, and all of the San Ramon Valley (see Figure 7-1). EBMUD is the largest water district in Northern California and serves 1.1 million customers in Alameda and Contra Costa County. The District brings water from the Mokelumne River watershed in the Sierra Nevada through three 81-mile aqueducts to the East Bay.

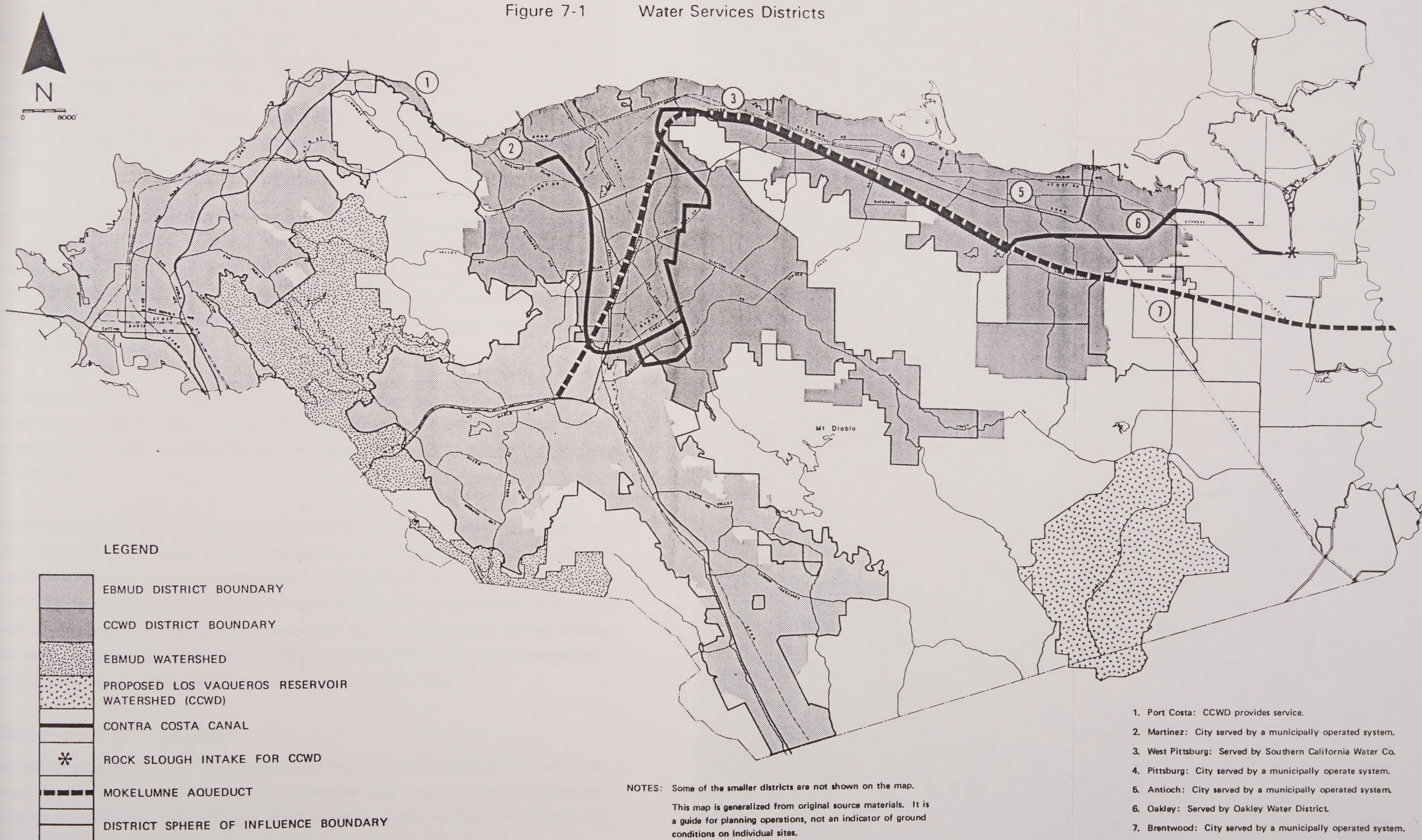
EBMUD has adopted a Water Supply Management Program which identifies the security, shortage and safety and health problems associated with its water supply. Concurrently, EBMUD began a comprehensive work program to update the Water Supply Management Program and to study possible water supply improvement projects to solve these projects. These proposed programs consider the needs of existing ultimate service boundary to the year 2020. It does not consider extension of water service outside the ultimate boundary.

The other major water supplier, CCWD, supplies treated water to all urbanized areas in Central Contra Costa County that are not serviced by EBMUD: the northern and eastern portion of Walnut Creek, most of Pleasant Hill, all of Concord and Clayton, the Hidden Lakes area of Martinez, and the unincorporated areas of Vine Hill, Pacheco, Clyde, Port Chicago, and along Marsh Creek Road to Morgan Territory (see Figure 7-1).

The CCWD treated water system consists of a San Joaquin Delta intake at Rock Slough, a river intake and pumping station at Mallard Slough near West Pittsburg, Mallard Reservoir north of Concord where raw Delta water is stored, and a modern water treatment plant near Mallard Reservoir. The CCWD wholesales raw water to industry and several municipal water companies, including the cities of Antioch, Pittsburg, and Martinez. Other agencies which buy untreated water from CCWD are the Southern California Water Company (serving West Pittsburg) and the Oakley Water District.

The CCWD receives raw Delta water from Rock Slough east of Knightsen and transports it to customers in the East and Central County via the 48-mile Contra Costa Canal system. The CCWD receives most of its supply from two takeouts on the Canal. During the winter months of wet years it also uses Mallard Slough to augment its supply.

Figure 7-1 Water Services Districts



A major problem facing the Contra Costa Water District is the increasing salinity of its water supply. Because the utility takes water from the San Joaquin-Sacramento River Delta, the quality of the water varies drastically according to the seasonal volumes of freshwater flows through the area. During years of lower than average rain and snowfall, saltwater intrudes further inland, threatening the intake at Rock Slough. This condition is further exacerbated by the historic practice of diverting more and more water for agricultural purposes from the two inland rivers before they reach the Delta.

The only large CCWD reservoir used for emergency backup storage is Contra Loma, in the hills south of Antioch. The lack of local storage reservoirs is a major weakness of the District's facilities, which is intended to be rectified by construction of the planned Los Vaqueros Reservoir(s) in the southeastern portion of the County. In addition, the Los Vaqueros Reservoir(s) will be used to blend higher quality water with the salty summer flows of the Delta waters, thereby improving the water quality of the CCWD water supply.

The third source of water in Contra Costa County is groundwater supplies. Several small public and private water companies extract underground water through wells and convey it to nearby customers. Most of these are in East County areas such as Bethel Island, Knightsen, Byron, and Discovery Bay.

Periodic droughts experienced by the region have underlined the importance of water conservation efforts. Contra Costa is the only county in the region to have adopted specific water conservation regulations which apply to all new development in unincorporated areas. This measure requires new development to limit lawn areas and to install drought resistant landscaping, among other conditions of approval for development projects. For example, Brentwood is currently utilizing wells and has an emergency "interruptible" supply of water from EBMUD during non-drought years. The City is currently looking at other permanent sources of fresh water.

Map of Planned Water Service Areas

The existing and planned service boundaries for the nine water service agencies in Contra Costa County are shown in Figure 7-1. State law requires the Local Agency Formation Commission (LAFCO) of each county to adopt "Sphere of Influence" boundaries which show the ultimate area

that is expected to be served by each water agency. The existing service is then expanded as necessary to include projected growth areas within the adopted Sphere of Influence boundary.

There are only a few areas in the County which are planned for development but are not currently included within an existing water service or Sphere of Influence boundary. These areas should ultimately be annexed into an appropriate service district. Conversely, Figure 7-1 highlights those areas which are included within current water service boundaries or Sphere of Influence areas, but which are not planned for urban development under the provisions of this General Plan. According to the nine water agencies now serving the County, the General Plan projected population can be supported based on current water rights allocation; however, infrastructure would need to be constructed in order to serve the projected population.

Those areas not included in service areas are watershed and open space properties owned by the water districts or by the regional park district. These lands are designated by this plan to remain in agricultural and open space uses. Although district watershed lands are not planned to receive urban water service, due to tax reasons these lands will remain within the service district boundaries. However, the other areas not planned for urban development should generally be detached from the service districts if they are not providing service.

Much of the future growth in the County is planned within the Urban Limit Line area of the Pittsburg-Antioch area and other eastern areas and, to a lesser extent, the San Ramon Valley. The remainder of East County includes the unincorporated Oakley, Bethel Island, and Discovery Bay communities, as well as the City of Brentwood where significant growth is also planned. The central portion of the County, which experienced rapid growth through the 1980s, is approaching buildout and population is expected to decline slightly for the planning period.

Therefore, the most serious potential water service deficiencies that have been identified in Contra Costa County are found in the area of East County within the Urban Limit Line. A significant amount of residential and commercial growth in the City of Brentwood and the unincorporated community of Oakley is also allowed under the provisions of this General Plan.

The three key issues regarding future water service to the East County area within the Urban Limit Line involves: (1) the logistics of supplying water to the growth areas (constructing new

pipelines, etc.); (2) identifying which water service agencies will assume responsibility for providing service; and (3) guaranteeing that an adequate supply of water will exist during normal and drought periods. The issue of which water district will commit to serving future populations is critical for the rapidly growing East County area. However, the Land Use Element of the General Plan (Chapter 3) is correlated with growth management policies of the Growth Management Element which defer new development until adequate water quantity and quality can be provided. In addition, infilling of already developed areas shall be encouraged before proposals that would prematurely extend development into areas lacking infrastructure are approved.

Wells, which have served as the primary water source in some rural parts of the County, are another source of water. However, the feasibility of continuing or expanding the areas served by wells, especially for the General Plan development which will occur in the East County, is dependent on the quality and quantity of the groundwater supplies. The major problem with groundwater quality is the concentration of nitrates in the supply.

Figure 7-2 highlights those areas in the County which have been identified by the County Health Department as containing groundwater nitrate concentrations that are higher than acceptable levels. Groundwater supplies in these identified areas are to be considered unsuitable as a future water source for rural residences because of public health risks.

Thus, further subdivision and construction of rural housing units ("ranchettes") will not be allowed under this General Plan, unless the subdivision and home construction conform to the criteria for the "Rural Residential Development Policy" included in the "Agricultural Resources" section of the Conservation Element. This policy requires that ranchette proposals meet applicable water quality standards as regulated by the County Health Services Department.

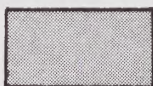
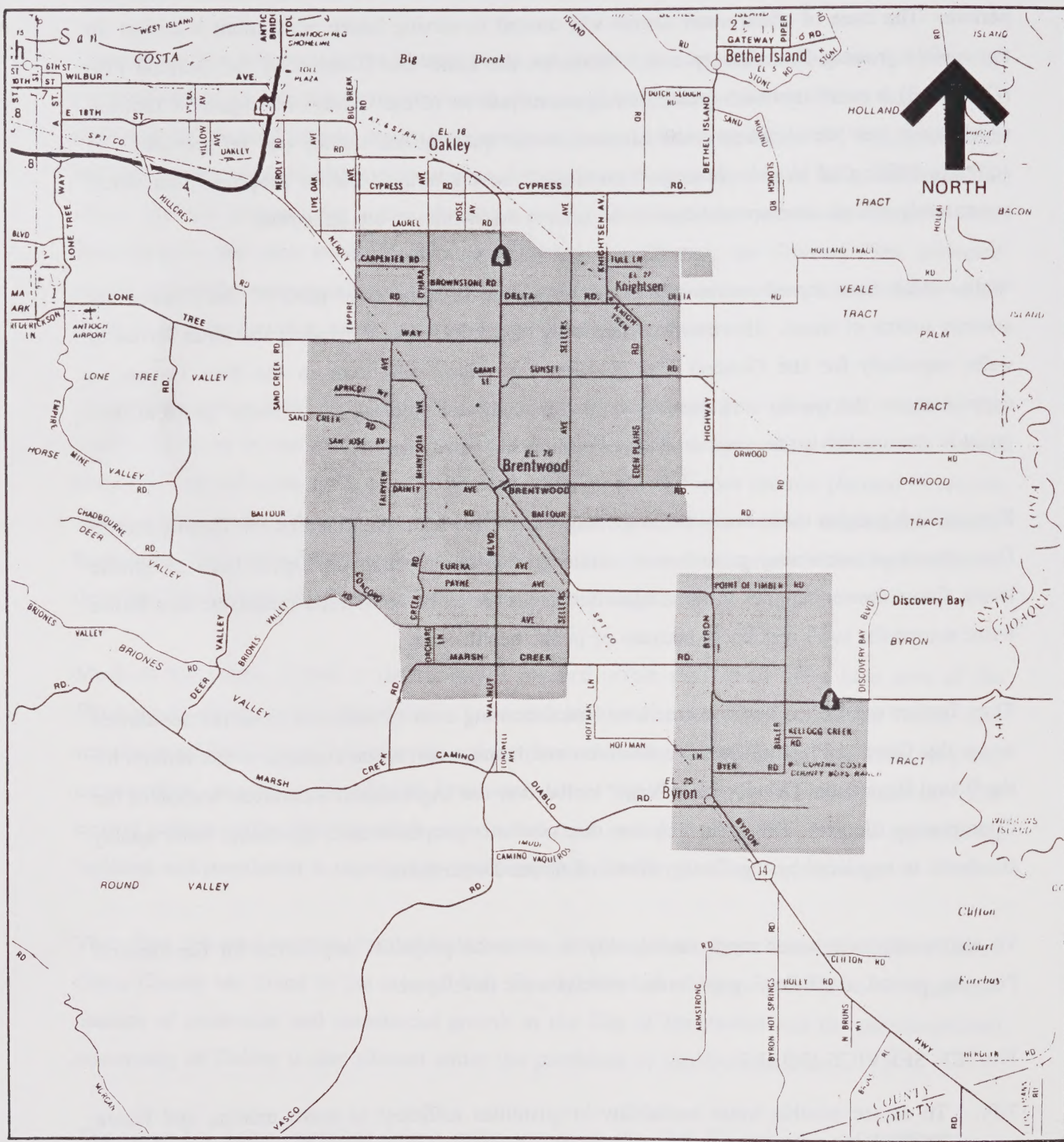
To assure adequate water supply and quality to serve the projected population for the General Planning period, the following goals and policies were developed.

WATER SERVICE GOALS

- 7-F. To assure potable water availability in quantities sufficient to serve existing and future residents.

Figure 7-2

Areas of Identified High Nitrate Concentrations



AREAS OF HIGH NITRATE CONCENTRATION

- 7-G. To encourage the development of locally controlled supplies to meet the growth needs of the County.
- 7-H. To encourage the conservation of water resources available to the County and to the State.
- 7-I. To protect and enhance the quality of the water supplied to County residents.
- 7-J. To ensure that new development pays the costs related to the need for increased water system capacity.

WATER SERVICE POLICIES

- 7-16. Water service systems shall be required to meet regulatory standards for water delivery, water storage and emergency water supplies.
- 7-17. Water service agencies shall be encouraged to establish service boundaries and to develop supplies and facilities to meet future water needs based on the growth policies contained in the County and cities' General Plans.
- 7-18. Water service agencies should generally be discouraged from constructing new water distribution infrastructure which exceeds future water needs based on the buildout projections of the County General Plan and city general plans.
- 7-19. Urban development shall be encouraged within the existing water Spheres of Influence adopted by the Local Agency Formation Commission; expansion into new areas within the Urban Limit Line beyond the Spheres should be restricted to those areas where urban development can meet all growth management standards included in this General Plan.
- 7-20. Development of rural residences or other uses that will be served by well water or an underground water supply will be discouraged if a high nitrate concentration is found following Health Services Department testing (see Figure 7-2).
- 7-21. At the project approval stage, the County shall require new development to demonstrate that adequate water quantity and quality can be provided. The County shall determine whether (1) capacity exists within the water system if a development project is built within a set period of time, or (2) capacity will be provided by a funded program or other mechanism. This finding will be based on information furnished or made available to the County from consultations with the appropriate water agency, the applicant, or other sources.
- 7-22. Water service agencies shall be encouraged to meet all regulatory standards for water quality prior to approval of any new connections to that agency.
- 7-23. The County shall cooperate with other regulatory agencies to control point and non-point water pollution sources to protect adopted beneficial uses of water.

- 7-24. Opportunities shall be identified and developed in cooperation with water service agencies for use of non-potable water, including ground water, reclaimed water, and untreated surface water, for other than domestic use.
- 7-25. Land uses and activities that could result in contamination of groundwater supplies shall be identified, monitored and regulated to minimize the risk of such contamination.
- 7-26. The need for water system improvements shall be reduced by encouraging new development to incorporate water conservation measures to decrease peak water use.
- 7-27. The reclamation of water shall be encouraged as a supplement to existing water supplies.
- 7-28. The County shall encourage its water serving agencies to prepare written drought contingency plans and hold public hearings on these plans. These plans should identify the size of needed drought capacity reserves. In requests for capacity verification for new development, the County shall require that the serving agency exclude these reserves from its operating capacities for the purpose of the verification.

WATER SERVICE IMPLEMENTATION MEASURES

Development Review Process

The following measures were developed in order to ensure adequate water supply and quality for the current and future goals of the General Plan and to ensure consistency with the land use and growth management elements.

- 7-i. Conditionally approve all tentative subdivision maps and other preliminary development plans on verification of adequate water supply for the project. Such condition shall be satisfied by verification, based on substantial evidence in the record, that capacity within the system to serve the specific development project exists or comparable demonstration of adequate wastewater treatment capacity. Where no tentative map or preliminary plan is required prior to development, approve no map or development permit without this standard being satisfied.
- 7-j. Identify, map, and monitor those areas where high levels of nitrates have been detected in groundwater supplies.
- 7-k. Discourage subdivisions or other permits which would allow the construction of rural residential units served by well water in areas of high nitrate concentrations, consistent with existing Health Department policy.
- 7-l. Discourage subdivisions or other permits which would allow the construction of rural residential units served by well water on lots of less than one acre, consistent with existing Health Department policy.

Intergovernmental Coordination

- 7-m. Encourage water service agencies and the Local Agency Formation Commission (LAFCO) to annex lands planned for urban development by this General Plan into their service areas. Conversely, encourage water agencies and LAFCO to detach the private lands from the service boundaries which are not planned for urban development and which are not currently served.
- 7-n. Encourage LAFCO to establish water service Spheres of Influence that are coincident with the boundary of planned urban development in this General Plan, including those rural properties that currently receive service.
- 7-o. Encourage the implementation of existing Urban Water Management Plans.
- 7-p. Encourage water service agencies to require separate service connections and meters where large quantities of water are used for special purposes such as landscape irrigation.
- 7-q. Encourage water agencies to provide potable water containing not more than 50 ppm sodium and 65 ppm chloride.

Water Conservation Program

- 7-r. Where feasible, include water conservation measures recommended by water service agencies in the conditions of approval for subdivisions and other new development.
- 7-s. Conduct regular inspections of public water systems under the jurisdiction of the County for leak detection, water audits, and repair and installation of individual meters.

7.7 SEWER SERVICE**INTRODUCTION**

Sewer service in Contra Costa County is the responsibility of 13 municipalities and service districts. The largest sewage treatment agencies are Central Contra Costa Sanitary District (CCCSD), which serves most of the central portion of the County; Delta Diablo, which serves the Pittsburg-Antioch area; West Contra Costa Sanitary District (WCCSD), which serves a portion of Richmond, El Sobrante, and San Pablo; and the East Bay Municipal Utility District (EBMUD), which serves Kensington, El Cerrito, and a portion of Richmond.

Sewer service consists of the transmission of municipal and industrial wastewater to a treatment facility, treatment, and then disposal of the wastewater and residual waste solids. As with water service, several cities operate their own local sewage collection system and contract with the larger

agencies to treat the effluent. Other cities operate their own collection systems as well as treatment plants.

Central Contra Costa Sanitary District provides wastewater (sewerage) collection and treatment services to all the cities and unincorporated areas of Central County, excluding the eastern side of the City of Martinez and the southernmost portion of the City of San Ramon (see Figure 7-3). In the cities of Concord and Clayton, municipal sewerage systems are responsible for wastewater collection and Central Sanitary treats the effluent. The District's wastewater treatment plant is located at the intersection of Route 4 and I-680. The treated wastewater is piped north and discharged into Suisun Bay.

The wastewater treatment plant operated by CCCSD previously had a capacity of approximately 35 million gallons per day (mgd) of sewage, which accommodated roughly 350,000 people. The plant has recently undergone a hydraulic expansion which increased capacity to 45 mgd, enabling it to accommodate future population growth of approximately 100,000 people over current levels.

The Delta Diablo Sanitation District (also known as County Sanitation District No. 7-A) operates a sewage treatment plant that treats wastewater from unincorporated West Pittsburg (Zone 1 of the district), the City of Pittsburg (Zone 2), and the City of Antioch (Zone 3). The treatment plant has a capacity of 12.6 million gallons per day. The treated effluent is discharged into New York Slough and the Sacramento-San Joaquin System. Delta Diablo has responsibility for the interceptor (main) pipelines and collector system in West Pittsburg, but in the other two cities the sanitation district operates only the interceptor lines.

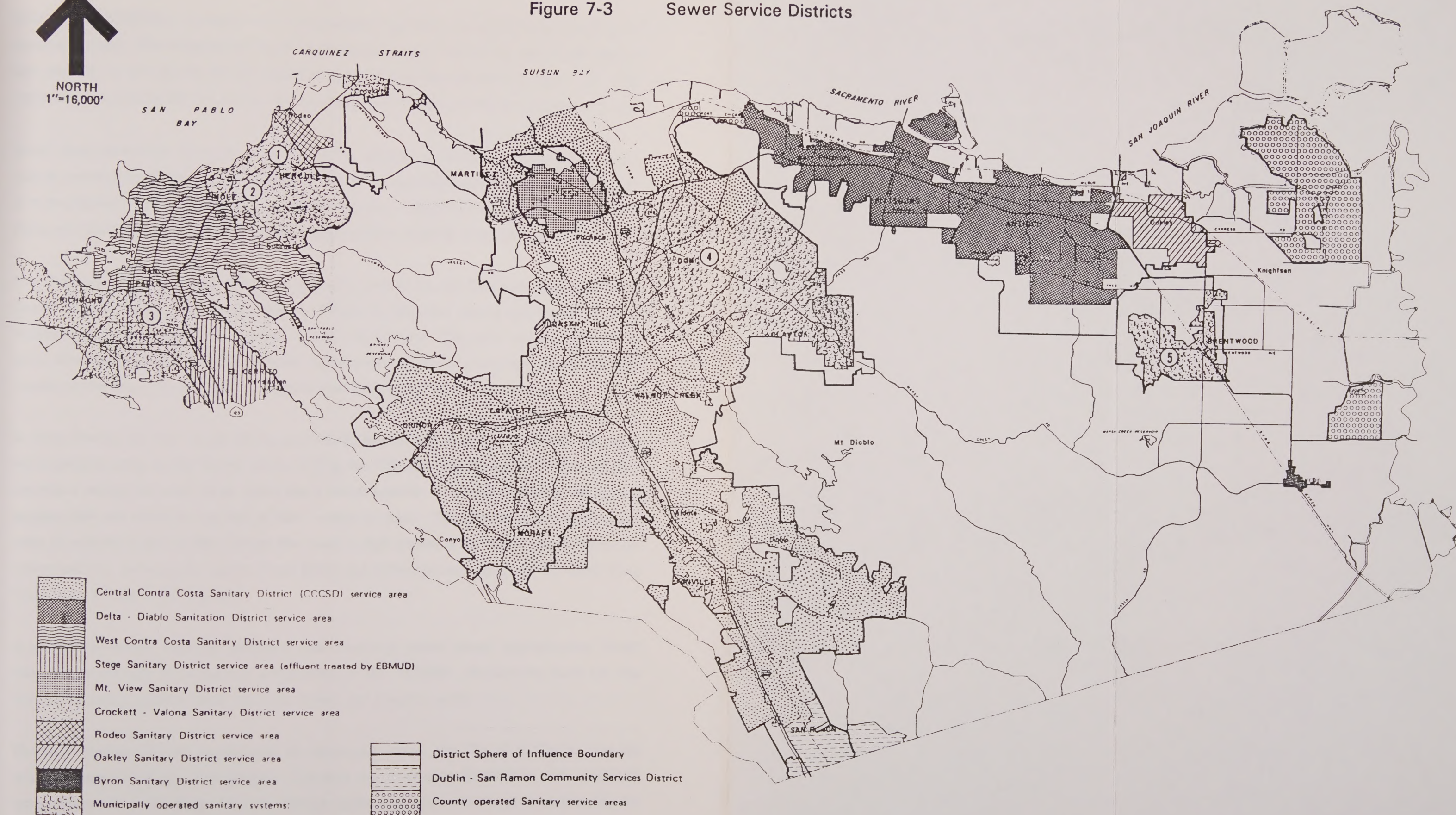
Delta Diablo Sanitation District also provides contract maintenance and operation of County Sanitation District 19, which is the sewage and water district system for the Discovery Bay community. Expansion of the water and sewage treatment system in Discovery Bay has been phased in conjunction with the buildout of the planned community. The treated effluent is discharged into a reclamation drain, and then into the Old River in the Delta.

The Oakley-Bethel Island Wastewater Management Authority (OBIWMA) is a Joint Powers Agency between Contra Costa County Sanitation District No. 15 (Bethel Island) and the Oakley Sanitary District (see Figure 7-3). The County and the Oakley utility operate respective collection



NORTH
1"=16,000'

Figure 7-3 Sewer Service Districts



1. City of Hercules
2. City of Pinole
3. City of Richmond
4. City of Concord (effluent treated by Central Sanitary)
5. City of Brentwood

facilities. The OBIWMA operates a newly constructed wastewater treatment plant northeast of downtown Oakley. This treatment plant processes approximately 1 mgd during average dry weather flow and has a treated wastewater disposal capacity of approximately 1.2 mgd. In 1988, construction was completed to increase disposal capacity to 2 mgd and can be expanded to 3 mgd.

Bethel Island wastewater flows are relatively high in relation to the level of development which must be served, according to a recent report, because of a very high rate of inflow and infiltration of non-wastewaters into the Bethel Island sewage system. Capacity has been provided so that during wet weather Bethel Island has wastewater treatment capacity to handle these impacts.

The Oakley-Bethel Island plant has been granted a permit by the California Regional Water Quality Control Board to discharge treated effluent by irrigating nearby agricultural lands or leaching peat fields owned by the Authority and a local dairy. The most serious constraint to future development within the Oakley-Bethel Island sewerage district is not the lack of treatment capacity at the plant, but the lack of adequate land for disposal of treated effluent.

In West County, the City of San Pablo, parts of Richmond and Pinole, El Sobrante and other unincorporated areas in the vicinity, are served by the WCCSD (see Figure 7-3). The WCCSD operates a sewage treatment plant which has a design capacity of 12 mgd, although average dry weather flows are currently one half of that capacity (6 mgd). The District covers some of the areas in western Contra Costa County that have a high potential for future development (or redevelopment), including the entire North Richmond unincorporated area, and the lands along Castro Ranch Road in El Sobrante.

A municipally owned sewerage collection and treatment system serves approximately 50,000 customers in the City of Richmond, independent of the WCCSD. In addition, there are two autonomous sewer districts which serve the Rodeo and Crockett areas.

The Stege Sanitary District encompasses the Richmond Annex, the City of El Cerrito, and the unincorporated community of Kensington. This area was annexed by EBMUD in 1970. EBMUD treats effluent from the Stege Sanitary District under contract, while Stege is responsible for maintenance of the sewer lines.

The Dublin-San Ramon Services District (DSRSD) is a multi-purpose district which provides sewerage to approximately one-half of the City of San Ramon, generally the area south of Montevideo Drive. DSRSD is a member of the Livermore-Amador Valley Water Management Agency (LAVWMA), which operates a regional pipeline that transports treated effluent out of the Livermore-Amador Valley to an outfall in San Francisco Bay.

Each LAVWMA member is allocated a certain portion of the total discharge capacity, which is limited by the size of the pipeline that exports waste out the area. The DSRSD allocation is almost exhausted. A major effort to determine how to increase export capacity is currently underway.

There are three municipal sewer systems in the County which serve the following growth areas: Pinole, Hercules and Brentwood. The City of Pinole operates a sewage treatment plant which treats effluent from both the Pinole and Hercules municipal collection systems.

The City of Brentwood operates a small sewage treatment plant with a capacity of approximately 0.9 mgd. The plant is processing 0.5 mgd. and approved development projects account for another 0.3 mgd. Consequently, without further expansion of sewage plant capacity, no significant new projects can be assured for sewer hook-ups. The City hopes to have the new plant expanded by 1989. Phase I expansion will allow 3,000 dwelling units and increase capacity to 1.8 mgd. A second phase is proposed to allow further capacity to 2.7 mgd. This second expansion is currently in the design phase.

An important issue for Brentwood to resolve is their method of wastewater treatment. Like Bethel Island-Oakley, the City currently relies on land disposal (irrigating agricultural lands). However, as the City's required treatment capacity increases due to urban development, the land disposal option will become more costly.

As projected significant growth occurs in East County, the affected sewer entities will be faced with developing new systems or expanding existing systems for the disposal of treated wastewater. The two alternatives available to East County for the disposal of treated wastewater are land disposal and surface water discharge. The decision of which option to pursue will depend on each East County service area's needs and localized environmental conditions.

Map of Planned Sewer Facilities

The existing and planned service boundaries for the 13 sewer service agencies in Contra Costa County are shown in Figure 7-3. Like water districts, sewer districts are required by State law to have adopted "Sphere of Influence" boundaries which show the ultimate area that is expected to be served by the agency. The existing service is then expanded as necessary to include projected growth areas within the adopted Sphere of Influence boundary.

There are few areas in the County which are not currently included within an existing sewer service or Sphere of Influence boundary, but which are planned for development and will require service. As in the case of water service districts, however, there are areas which are included within the current sewer service boundaries or Sphere of Influence areas, but which are not planned for urban development under the provisions of this General Plan. These latter areas include open space properties owned by the regional park district, and lands outside the Urban Limit Line designated by this plan to remain in agricultural uses. These areas should ultimately be detached from the sewer service districts. Areas of future development projected outside of existing service boundaries could generally be accommodated by expansion of a particular service agency. However, certain areas projected to grow outside the service boundaries could be served by one of several agencies.

Sewer service to West and Central County and the Pittsburg-Antioch area has been planned to meet projected demand resulting from existing and future development. However, several issues have been identified which may influence the method of sewer service disposal used for some growth areas in the East County area.

Projected growth in East County communities (Oakley, Brentwood, Bethel Island) is far in excess of the existing wastewater treatment/disposal capacity. The current method of wastewater disposal in these areas is either land disposal (land application of treated wastewater onto open space or agricultural lands), or discharge into the San Joaquin-Sacramento Delta. Expanding this land disposal technique may be impractical in the future due to the large amount of land that would be required for the disposal of wastewater generated by projected growth. However, this option may be more feasible if a higher level of wastewater treatment was able to generate wastewater suitable for irrigation of a wider range of agricultural crops.

An alternative which would help to accommodate larger wastewater flows is to receive permission from the Central Valley Regional Water Quality Control Board (RWQCB) to discharge effluent into Big Break waters during the wet months. Approval of this option may be difficult since the RWQCB has discouraged the issuance of any new permits which would allow discharge into Delta or river waters. The protection of Delta and Bay water quality is also a County concern. Disposal options should be thoroughly evaluated to identify the most cost effective and least environmentally damaging alternative means of disposal.

In addition to the discharge of treated effluent into rivers or onto agricultural land, a third form of sewage treatment, septic tanks and leachfields, is used in rural areas where no public service is available. The use of leachfields and septic tanks is not practicable, however; in some of the rural areas of Contra Costa County where shallow groundwater tables, high nitrate concentrations in groundwater, or soils with poor percolation (absorption) characteristics are present.

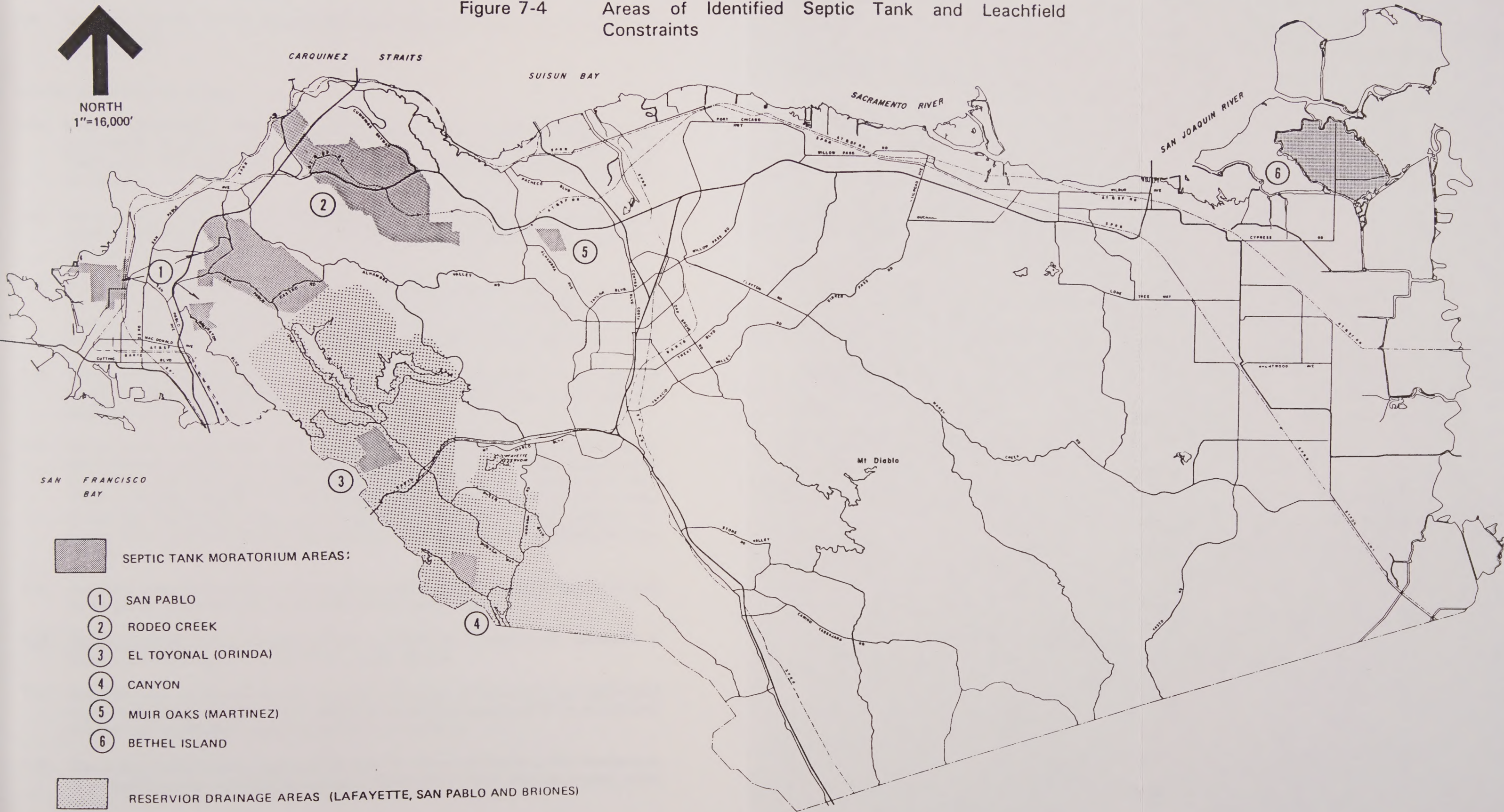
In selected areas, the County Health Officer has established a moratorium on the issuance of permits for any additional septic tank systems. The locations of the existing septic tank moratorium areas are illustrated on Figure 7-4. The approval of minor subdivisions for rural residential or ranchette development in these areas is generally not allowed. Other areas may be placed in moratorium areas if conditions warrant that action. The County has also adopted measures to ensure that subdivision of lands and placement of septic tanks and leachfields is regulated within the watershed of the County's major reservoirs.

In order to provide for the waste disposal needs of the General Plan, the following goals and policies were developed.

SEWER SERVICE GOALS

- 7-K. To provide sewer collection, treatment and disposal facilities adequate to meet the current and projected needs of existing and future residents.
- 7-L. To provide wastewater treatment that preserves, and to the extent feasible, enhances water quality and the natural environment.
- 7-M. To develop wastewater reclamation as a supplement to imported surface water supplies.

Figure 7-4 Areas of Identified Septic Tank and Leachfield Constraints



SOURCE: Contra Costa County Health Department 1978

- 7-N. To assure that new development pays the costs related to the need for increased sewer system capacity.

SEWER SERVICE POLICIES

- 7-29. Sewer treatment facilities shall be required to operate in compliance with waste discharge requirements established by the California Regional Water Quality Control Board. Development that would result in the violation of waste discharge requirements shall not be approved.
- 7-30. Sewer service agencies shall be encouraged to establish service boundaries and develop treatment facilities to meet future service needs based on the growth policies contained in the County and cities' General Plans.
- 7-31. Urban development shall be encouraged within the sewer Spheres of Influence adopted by the Local Agency Formation Commission. Expansion into new areas within the Urban Limit Line but beyond the Spheres of Influence should be restricted to those areas where urban development can meet growth management standards included in this General Plan.
- 7-32. Development of rural residences, or other uses, that will be served by septic tank and leachfields, shall be discouraged in areas with high groundwater levels or soils with poor percolation characteristics.
- 7-33. At the project approval stage, the County shall require new development to demonstrate that wastewater treatment capacity can be provided. The County shall determine whether (1) capacity exists within the wastewater treatment system if a development project is built within a set period of time, or (2) capacity will be provided by a funded program or other mechanism. This finding will be based on information furnished or made available to the County from consultations with the appropriate water agency, the applicant, or other sources.
- 7-34. For future sewer facilities that may be required, appropriate land areas in the County shall be designated consistent with other policies in the General Plan.
- 7-35. Opportunities for using reclaimed wastewater shall be identified and developed in cooperation with sewer service and water service agencies.
- 7-36. Beneficial uses of treated wastewater including marsh enhancement and agricultural irrigation shall be encouraged. Such wastewater reclamation concepts shall be incorporated into resource management programs and land use planning.
- 7-37. The need for sewer system improvements shall be reduced by requiring new development to incorporate water conservation measures which reduce flows into the sanitary sewer system.

SEWER SERVICE IMPLEMENTATION MEASURES

In accordance with the land use and growth management elements of the General Plan that limit growth until adequate waste management services can be provided, the following measures were developed in order to provide for the liquid waste disposal needs of the community.

Development Review Process

- 7-t. Conditionally approve all tentative subdivision maps and other preliminary development plans on verification of adequate wastewater treatment capacity for the project. Such condition shall be satisfied by verification based upon substantial information in the record that capacity within the system to serve the specific development project exists or comparable demonstration of adequate wastewater treatment capacity. Where no tentative map or preliminary plan is required prior to development, approve no map or development permit without this standard being satisfied.
- 7-u. Identify, map, and monitor those areas where high groundwater levels and soils with poor percolation characteristics have been detected.
- 7-v. Discourage approval of subdivisions or other permits which would allow the construction of rural residential units served by septic tanks and leachfields in areas of high groundwater levels or poor percolation characteristics, consistent with existing Health Department policy.
- 7-w. Continue to enforce Sections 420-6.002 and 4200-6.008 of the County Code, which regulate the placement of septic tanks within the watersheds of reservoirs.
- 7-x. Include wastewater reduction and other measures recommended by sewer service agencies in the conditions of approval for subdivisions and other new development.

Intergovernmental Coordination

- 7-y. Encourage sewer service agencies and the Local Agency Formation Commission (LAFCO) to annex lands planned for urban development by this General Plan into their service areas.
- 7-z. Encourage LAFCO to establish sewer service Spheres of Influence that are coincident with the boundary of planned urban development in this General Plan, including those rural areas that currently receive service.

7.8 DRAINAGE AND FLOOD CONTROL

INTRODUCTION

The implementation of drainage facilities in the County falls under the jurisdiction of either the 18 cities, the County for the unincorporated areas, or the County Flood Control and Water Conservation District, which has adopted plans which serve both cities and the County. All three groups generally use the same design criteria in sizing and evaluating drainage systems. The basic unit for storm drainage planning is a watershed. Watershed boundaries do not coincide with political boundaries, but are determined by topography, or the "lay of the land."

Unlike domestic water and sanitary systems, the pattern of storm water drainage is determined by water's natural tendency to flow downhill. Consequently, much of the drainage system serving the County consists of natural drainage swales, ditches and watercourses. During the urbanization process, developers replace most of the swales and ditches with underground storm drains or concrete lined ditches. To a lesser extent, natural watercourses such as creeks may also be modified during the development process. Normally creeks are modified only when the natural watercourse is determined to be inadequate for flood control, or when erosion threatens the proposed development plan.

The cities and the County Flood Control and Water Conservation District have developed regional drainage plans in many areas to guide developers in the implementation of new drainage systems serving development, and to provide the basis for local and federal flood control projects. Local drainage infrastructure is provided by developers as part of the land development process.

Map of Planned Drainage and Flood Control Facilities

Numerous existing or potential storm drainage problems have been identified in the County. There are three types of flood control projects that should be constructed in order to mitigate drainage problems: (1) local and regional facilities needed to solve existing flooding problems; (2) local and regional facilities needed to accommodate the runoff anticipated from future urban development; and (3) improvements to the levee system in the San Joaquin-Sacramento Delta. All three kinds of projects are discussed below.

A large number of unfunded projects are needed to correct existing flood control problems. The total cost of the projects necessary to correct these problems is estimated to range from \$500 to \$800 million (included in this estimated cost is \$53 million for levee rehabilitation projects, discussed separately below). The individual flood control projects and their estimated costs are itemized in the Technical Appendix to this plan.

Many of the existing flood control problems are in the Central and West County areas. Because many of the affected areas are already developed, assistance from future development in the form of drainage fees cannot be expected to completely mitigate existing and future problems. The federal and State governments have provided some funding for projects such as these, but there is still a large shortfall.

The construction of specific local collector drainage systems and regional drainage facilities will be required to accommodate future development and to mitigate the resultant increase in peak runoff from urbanization. However, present procedures for requiring all new development to pay its fair share of needed drainage infrastructure are cumbersome and inconsistently applied. Many, but not all, major development projects are required to mitigate the increase in storm water runoff they cause, but most smaller developments do not contribute to the regional mitigation solution. Many of the smaller developments are located in existing urbanized areas and, due to their size, are unable to bear the full cost of the needed drainage improvements. Frequently, these developments are allowed to proceed without contributing to the long-range solutions. An additional problem is the inconsistencies in the amounts of drainage improvement fees required by the various cities and the County.

Preparing regulations for the formation of drainage area plans and the adoption of fees is a time consuming process. The process is complicated by the lengthy period of study which is needed to evaluate various alternatives to find a solution that is functional, economically feasible, and environmentally and socially acceptable.

Following the adoption of a drainage plan, drainage fees can be assessed against new development within the drainage area. Because drainage fees can only be assessed on new developments occurring within adopted drainage areas, developments built within areas not yet established as adopted drainage areas do not pay standardized drainage fees but must meet the collect and convey

requirements of the subdivision ordinance. Furthermore, they must comply with drainage requirements imposed as conditions of approval development approval.

Figure 7-5 is a County map outlining the numerous flood control drainage areas and a "generalized urban use boundary," i.e., the perimeter of planned urban development allowed under this General Plan. The drainage areas have been categorized according to the status of adopted drainage plans and fees required for new development in each area, as described below:

- o Flood Control Drainage Areas With Established Fees and/or Payment for Drainage Mitigation

The drainage areas with established fees have undergone sufficient study by the County Flood Control and Water Conservation District for development of a drainage plan, the plan has been adopted by the Board of Supervisors, and fees have been established. Approved development projects in these drainage areas are assessed a fee based upon the impervious (impenetrable) surface that they create, or the number of acres that are developed. Also included in Figure 7-5 under this category are lands for which development is assessed flood control fees by an agency other than the County Flood Control and Water Conservation District, e.g. the City of Walnut Creek.

For other areas of the County in this category, a drainage plan has not been formally adopted and fees have not been established, although payment for drainage mitigation has been established as a condition of approval for new development. In most cases, larger development projects are required to make these mitigation payments, although the requirement may not be consistently applied to smaller projects.

- o Drainage Areas Under Study

Figure 7-5 indicates a large area in East Contra Costa County which is currently under study by the County Flood Control and Water Conservation District. This study will lead to the preparation of a drainage plan that is designed to mitigate increased stormwater flows generated by planned development. The plan will calculate a standardized fee to be applied to all new development to fund the necessary improvements.

The third type of flood control improvement, in addition to regional and local projects needed to accommodate existing or planned development, is levee rehabilitation. Levee rehabilitation projects are required to improve the structural integrity of existing levees in the Delta area, especially in the Bethel Island, the Hotchkiss Tract and the Veale Tract areas, which are considered inadequate. The State Department of Water Resources has estimated costs of \$3.9 million for Bethel Island, \$8 million for Hotchkiss Tract. Recently \$7 million was spent on improvements to Veale Tract.

The construction of major new subdivisions adjacent to the islands may warrant even greater investments for adequate protection.

Two other issues that need to be addressed in the rehabilitation of levees are the continued settlement of the levees due to subsidence conditions, and the expected rise in Delta surface water due to the anticipated rise in ocean levels due to the "greenhouse effect." These two flood control issues are dealt with in great detail in the "Flooding" section of the Safety Element.

It should be noted that numerous other goals and policies regarding the preservation of creeks and other watercourses in the County are included in the "Urban and Rural Creeks" section of the Open Space/Conservation Element. Those policies should be read in concert with those listed below to get a complete understanding of how flood control and open space issues are to be resolved.

In order to provide for the protection of the public from the hazards of flooding and to provide a surface water drainage system for projected growth as adopted by this General Plan, the following goals and policies were adopted.

DRAINAGE AND FLOOD CONTROL GOALS

- 7-O. To protect and enhance the natural resources associated with creeks and the Delta, and their riparian zones, without jeopardizing the public health, safety, and welfare.
- 7-P. To protect creeks and riparian zones identified as valuable from damage caused by nearby development activity.
- 7-Q. To employ alternative drainage systems improvements which rely on increased retention capacity to lessen or eliminate the need for structural modifications to watercourses, whenever economically possible.
- 7-R. To enhance opportunities for public accessibility and recreational use of creeks, streams, drainage channels and other drainage system improvements.
- 7-S. To encourage private programs which assure ongoing maintenance of natural watercourses utilizing methods which retain the characteristics of natural watercourses.
- 7-T. To ensure that new development pays its fair share of the costs related to increased runoff created by the development.
- 7-U. To support the concept that existing development pays the cost of building and maintaining drainage improvements required to serve existing developed areas.

Figure 7-5 Areas of Drainage Plans



NORTH
1"=16,000'

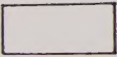
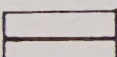
SAN FRANCISCO
BAY

CARQUINEZ STRAITS

SUISUN BAY

SACRAMENTO RIVER

SAN JOAQUIN RIVER

-  URBAN USE AREAS
-  AREAS WITH ADOPTED DRAINAGE FEES AND/ OR PAYMENTS FOR DRAINAGE MITIGATION
-  GENERALIZED URBAN USE BOUNDARY
-  NON-URBAN USE AREAS

DRAINAGE AND FLOOD CONTROL POLICIES

- 7-38. Watershed management plans shall be developed which encourage the development of detention basins and erosion control structures in watershed areas to reduce peak stormwater flows, as well as to provide wildlife habitat enhancement.
- 7-39. Land use plans and zoning shall be the primary means for floodplain management in preference to structural improvements, where possible.
- 7-40. Alternative drainage system improvements such as floodplains, leveed floodways, bypass channels and culverts, and detention basins, shall be incorporated into new flood control plans and existing plans as they are revised.
- 7-41. Aesthetic, environmental, and recreational benefits shall be taken into full consideration when determining the costs and benefits of alternative drainage system improvements.
- 7-42. Design guidelines shall be prepared which address aesthetic and engineering characteristics and criteria for alternative drainage system improvements.
- 7-43. Public participation shall be encouraged in the design of major flood control projects.
- 7-44. New development should be required to finance its legal share of the full costs of drainage improvements necessary to accommodate projected peak flows due to the project. Reimbursement from subsequent developments which benefit from the added capacity may be provided.
- 7-45. On-site water control shall be required of major new developments so that no significant increase in peak flows occurs compared to the site's pre-development condition, unless the Planning Agency determines that off-site measures can be employed which are equally effective in preventing adverse downstream impacts expected from the development or the project is implementing an adopted drainage plan.
- 7-46. Regional detention basins shall be favored over smaller, on-site detention basins.
- 7-47. Where required, if it is not possible to provide a channel cross section sufficient to carry the 100-year flow, detention basins should be developed.
- 7-48. Open bypass channels, detention basins and all drainage facility rights of way which are provided at different locations in order to supplement existing natural creeks should be developed as an asset to the development, e.g., as a secondary recreation use.
- 7-49. Natural streams and channels which have been structurally modified shall be evaluated for potential use as urban open spaces, linear parks, and trails. Cities and other agencies responsible for recreation shall be encouraged to undertake this evaluation.
- 7-50. Public access to watercourses shall be required of major new developments when liability, security, and maintenance issues can be satisfactorily resolved.

- 7-51. Detention basins shall be designed for multiple uses such as parks and playing fields when not used for holding water, if liability and maintenance issues can be satisfactorily resolved.
- 7-52. Plans for Delta levee rehabilitation and maintenance should be developed to protect the beneficial uses of the Delta.
- 7-53. Plans for Delta levee rehabilitation and maintenance should consider methods to foster riparian habitat to the fullest extent possible consistent with levee integrity.
- 7-54. Agencies whose projects benefit from Delta levee protection, including State and federal government (water, highway, fish and wildlife, and recreational projects), PG&E, and private railroad companies, shall participate in funding all Delta levee improvements and maintenance.
- 7-55. As appropriate and to the extent allowed by law, assess all new development projects at least \$0.35 per square foot of impervious surface created. This drainage fee is to be collected through existing County Flood Control drainage area fee ordinances, newly adopted drainage area fee ordinances, existing and new assessment districts, or other financial entities. The fee may be applied to the cost of any developer-sponsored regional flood control improvements on- or off-site which mitigate the project's flooding impacts. Regional facilities are defined as systems sized to handle at least 15 cubic feet per second and suitable for public agency maintenance, i.e., 24-inch diameter and larger storm drains.
- 7-56. All residential and non-residential uses proposed in areas of special flood hazards, as shown on FEMA maps, shall conform to the requirements of County Floodplain management applied to all ordinances, approved entitlements (land use permits, tentative, final, and parcel maps, development plan permits, and variances) and ministerial permits (buildings and grading permits).

DRAINAGE AND FLOOD CONTROL IMPLEMENTATION MEASURES

Flood Control Techniques

- 7-aa. Encourage gabion-type construction, instead of extensive riprap or concrete lining, to stabilize creek banks.
- 7-ab. Utilize check dams and drop structures to control erosion within natural watercourses, where creek capacity and bank stability permits.
- 7-ac. Utilize bypass culverts, detention basins, and floodplain easement acquisitions, when such means are available, as alternatives to structural modifications of watercourses.

Benefit Assessment Districts

- 7-ad. Create benefit assessment districts to pay for drainage maintenance activities resulting from new developments that require maintenance above the County standard maintenance activities.

- 7-ae. Consider the creation of benefit assessment districts to pay for drainage maintenance activities in existing developed areas. Exempt agricultural land and other land uses that do not produce stormwater flows in excess of natural conditions from benefit assessments for building or maintaining drainage facilities, unless such facilities directly benefit the agricultural or open space use or their inclusion is required by law.

Development Review Process

- 7-af. As appropriate, exclude drainage easements and areas with deeded development rights for drainage purposes in the minimum lot size determination.
- 7-ag. Encourage public fee ownership of all open, government maintained drainage facilities to ensure that the adjacent developing properties contain sufficient usable area to meet the specified land use and to provide for secondary use as recreational and visual resources.
- 7-ah. Protect natural channels that are not to be maintained by government by requiring dedicated development rights; protect storm drain pipes by requiring drainage easements; and seek to secure open government-maintained facilities by fee title land rights.
- 7-ai. As a high priority for implementing this General Plan and to the extent allowed by law, review and consider amending all drainage ordinances to ensure that all drainage fees required by drainage plans or other ordinances:
 - (a) are revised at the beginning of each calendar year or as appropriate to reflect inflation (as measured for the San Francisco region by the U.S. Department of Housing and Urban Development); and
 - (b) are based upon an up-to-date estimate of the projected costs of flood control improvements that are required within the drainage area to ensure protection from a 100-year flood; and
 - (c) are at least \$0.35 per square foot of added impervious surface.

Other Ordinances and Regulations

- 7-aj. Continue in force or adopt ordinances to prevent property owners from causing an obstruction in a watercourse and a code enforcement program to assure adequate compliance with the ordinance.
- 7-ak. Continue to administer the Floodplain Management Ordinance.
- 7-al. Encourage integrated pest and weed management methods which reduce or eliminate the use of pesticides and herbicides for watercourse maintenance.

7.9 PUBLIC PROTECTION

INTRODUCTION

Public protection services are essential to the community in responding to day-to-day emergencies, as well as to potential future demands due to a major earthquake or other disaster. Policies regarding routine police services are described in this section; policies regarding disaster preparedness and response are found in the "Public Protection Services and Disaster Planning" section of the Safety Element.

Police services in Contra Costa County are provided by a number of agencies at several levels of government. These agencies include:

- o the Federal Bureau of Investigation;
- o the California Highway Patrol;
- o the Contra Costa County Sheriff's Department;
- o the individual city police departments;
- o the Kensington Police District (in unincorporated Kensington);
- o the East Bay Regional Parks District Police;
- o the State Park Rangers; and
- o the Bay Area Rapid Transit District Police.

In addition, several agencies within the County provide specialized protection for specific areas or types of property. These agencies include:

- o the Contra Costa County Housing Authority, which polices public housing projects;
- o the U.S. Military Police, which covers military property;
- o private patrols for some industrial and commercial developments; and
- o private patrols for some residential developments.

The Contra Costa County Sheriff's Department provides police protection services for all unincorporated areas in the County. Additionally, the Department sponsors a number of programs designed to deter crime in residential neighborhoods. These include Neighborhood Watch programs, which involve fostering acquaintance among neighbors and an attitude of care for neighboring properties, and placement of permanent identification markings on household items and signs on

property indicating that valuable items have been marked (Operation I.D.). These programs have resulted in reduced rates of theft and other types of crime in neighborhoods throughout the County.

Defensible space design guidelines are also a valuable means of deterring crime in new developments. "Defensible space" is the concept of designing buildings and neighborhoods to promote the proprietary interest of the residents in neighborhood activities, to permit the identification of suspicious circumstances and persons, and to indicate to the potential criminal that he or she would have a high risk of apprehension.

The principles of defensible space include:

- o a visually well defined separation between public and private areas;
- o well lighted and windowed apartment stair wells;
- o apartment corridors accessible from only one exterior entrance;
- o windows placed for easy resident surveillance of entryways of public and semi-public areas;
- o absence of interior hiding places;
- o short streets ending in cul-de-sacs in single-family residential areas; and
- o landscaping to permit surveillance of open areas and entryways.

Defensible space design principles have demonstrated a high rate of crime deterrence in residential as well as other types of development.

In order to provide an acceptable level of police protection service for the projected population as provided by this General Plan and to improve the level of efficient police protection needed through the land use planning and review process the following goals and policies were developed.

PUBLIC PROTECTION GOALS

- 7-V. To provide a high standard of police protection services for all citizens and properties throughout Contra Costa County.
- 7-W. To incorporate police protection standards and requirements into the land use planning process.
- 7-X. To encourage public participation in crime prevention activities.

PUBLIC PROTECTION POLICIES

- 7-57. A sheriff facility standard of 155 square feet of station area per 1,000 population shall be maintained within the unincorporated area of the County. (Also see Growth Management Element.)
- 7-58. Sheriff patrol beats shall be configured to assure minimum response times and efficient use of resources.
- 7-59. A maximum response time goal for priority 1 or 2 calls of five minutes for 90 percent of all emergency responses in central business district, urban and suburban areas, shall be strived for by the sheriff when making staffing and beat configuration decisions.
- 7-60. Levels of service above the county-wide standard requested by unincorporated communities shall be provided through the creation of a County Service Area or other special governmental unit.
- 7-61. Increased costs associated with the County's jail system shall not reduce the level of sheriff patrol service throughout the County.

PUBLIC PROTECTION IMPLEMENTATION MEASURES

- 7-am. Maintain a sheriff's sub-station in each geographical area of the County (East, West, Central, South Central) to serve the individual needs of that area, if warranted. Facility size should be guided by Policy 7-58 and should be commensurate with staffing needs, with provision for future expansion to match projected increases.
- 7-an. Encourage the Sheriff's Department, in cooperation with the Community Development Department, to develop guidelines for defensible space design of buildings and major subdivision projects. Include such guidelines in the review of development projects to assure that crime-inviting features are reduced or eliminated.
- 7-ao. Encourage the use of citizen action programs sponsored by the Sheriff such as Neighborhood Watch and Operation ID.
- 7-ap. Consider the use of community service officers to provide law enforcement outreach programs to schools and other institutions.
- 7-aq. In developing areas the Sheriff protection service standard shall be achieved by creation of a County Service Area and special tax and/or creation of a Mello Roos Community Facilities District that generates special tax revenue to support additional increments of Sheriff patrol necessary to meet the adopted service standard. Developers, prior to receiving development approvals, should agree (via a Development Agreement or a landowner election) to participate in such special funding districts.

- 7-ar. Public protection facilities needs will be included in the 5-year Capital Improvements Program to ensure that the facilities will be available as development proceeds.

7.10 FIRE PROTECTION

INTRODUCTION

A total of 19 fire departments provide fire protection and suppression services to Contra Costa County. Of this total, 12 are governed by the County Board of Supervisors. Though the County does not have governing authority over the remaining seven agencies, several important relationships exist. The jurisdictional relationships among fire protection agencies and the County are summarized in Table 7-1. All fire agencies within the County have signed mutual aid agreements to provide assistance to neighboring agencies.

Table 7-2 summarizes the departments and their jurisdictional status, organized by Fire Protection Area (FPA). The FPA's were established as part of the County's 1984 Fire Protection Plan for the purpose of projecting the geographic distribution of future growth. Table 7-2 also lists the various fire agencies which operate within each of the FPA's.

Responsibility for the review and approval of land use applications and development projects rests with a number of agencies. Primary responsibility for fire safety review involves the fire agencies. In their review, the agencies rely upon a number of sources, including the Uniform Building Code of California (UBC), which provides standards and guidelines related to firewalls, building separation, and other fire safety related construction standards used throughout the State for reviewing projects.

In addition, the County Community Development Department, in its review and approval process of applications within unincorporated areas, relies upon standards contained in the Contra Costa County Code (Title 9: Subdivisions). The County Code includes a number of provisions relevant to fire protection and suppression as they apply to subdivision map approval. These include street design (turning radius, width, slope, etc.) and provision of fire hydrants.

The current County Sprinkler Ordinance requires that developers provide all home buyers with the option of sprinkler installation. In Planned Unit Developments with model homes, the Ordinance

TABLE 7-1
RELATIONSHIP OF FIRE PROTECTION AGENCIES
TO CONTRA COSTA COUNTY

Type of Agency Organization	Number of Agencies	Relationship to County Planning and Service Provision
Fire Departments governed by the Board of Supervisors	11	Board of Supervisors establishes policy, approves budgets and implements legislation.
Independent Fire Protection Districts	3	County implements/collects development fees in the unincorporated portion of the district.
City Fire Departments	4	County has no authority.
All Agencies	19	Mutual Aid Agreements exist between agencies. Land use decisions by County may influence provision of services.

TABLE 7-2

**CONTRA COSTA FIRE PROTECTION AND SUPPRESSION
SERVICES BY FIRE PROTECTION AREA (FPA)**

<u>Area</u>	<u>Governed by County Board of Supervisors</u>	<u>Independent District</u>	<u>Department</u>
Central	Moraga FPA Orinda FPA CCC Consolidated FPA		
East	Riverview FPA Oakley FPA Bethel Island FPA East Diablo FPA Byron FPA		
San Ramon Valley		San Ramon Valley FPD	Doughtery Regional Fire Authority (San Ramon)
West	West Co. FPD Pinole FPA Crockett-Carquinez FPA	Rodeo- Hercules FPA Kensington FPA	Richmond FD El Cerrito FD

requires that at least one model be equipped with sprinklers. This plan endorses an amendment to the Code that would require all new residential construction to install sprinklers in all units.

Projects which fall within a city boundary are subject to city review rather than County review. Some cities have adopted various ordinances related to fire protection, including development standards for fire-resistant roofing materials.

The primary source of revenues for fire protection and suppression activities is property taxes. Other sources include fees and charges for inspection services, and exactions and dedications levied as conditions of project approval. Ordinances which implement development fees are established for certain districts and the Special District Augmentation Fund.

In 1986, the County adopted an ordinance to allow the establishment of fire facility fees. This policy is currently being implemented via ordinances establishing the exact amount of the fees for specific agencies' service areas. The implementing ordinances adopted by the County apply to County-governed agencies with adopted five-year plans, and agencies which are independent districts. The County collects the fees in the unincorporated portion of the independent district.

Benefit assessment districts are in the process of being implemented in service areas of County-governed agencies, under the authority of Government Code Article 3.6, Section 50078-50078.20. The County has adopted an ordinance establishing a benefit assessment district in the unincorporated area served by the Rodeo-Hercules Fire Protection District.

Redevelopment law provides for the Redevelopment Agency to "freeze" the property tax revenues allocated to other agencies within a redevelopment area, and use those revenues for redevelopment projects. While this process is intended to revitalize the redevelopment project area, it can have a negative fiscal impact upon agencies which must continue to serve the area. Currently, the County maintains an "unwritten policy" to allow fire agencies to continue to receive tax revenue increases as they occur.

Of critical importance to reducing fire-related losses are fire prevention techniques and successful fire control and extinguishment. The latter requires that fire fighters and equipment are able to arrive at the scene promptly. In light of the planning and financing efforts described above, these

critical factors suggest a number of specific fire protection-related issues and requirements, as follows:

- o Aging fire protection facilities and equipment need to be improved and/or replaced.
- o Continued development in the County will require the addition of fire stations.
- o Reorganization of existing station locations would improve utilization of service capabilities.
- o Inter-jurisdictional coordination needs to be maintained and improved. For example, plans influencing future growth and development within fire service areas need to be reviewed by the affected fire service agency. Planning for fire station locations requires current knowledge of growth projections both within the fire service area as well as in neighboring areas.
- o The needs described above require a long-term source of funding not adequately addressed by existing sources. Proposition 13, adopted by California voters in 1978, limited property tax growth and significantly reduced fire agencies' ability to rely upon property taxes as a source of funding. Dedications and exactions as conditions of project approval are an uncertain revenue source.
- o Equitable means of distributing the financing burden are necessary.
- o Development and enforcement of standards to reduce risks of fire loss in fire hazard areas are required. This issue is particularly acute due to wildlife hazards and/or lack of adequate water provision.
- o Development and enforcement of standards to reduce risks of fire loss in structural fires should continue. These standards may include, for example, built-in fire protection and extinguishment features; use of fire-retardant materials and full parapet common walls; and features to aid access to high-rise buildings.

This plan requires that adequate fire protection services be provided as part of the service standards included in the Growth Management program (Chapter IV). In order to provide efficient fire service through the land use planning and review process, the following goals and policies were developed.

Map of Planned Fire Protection Facilities

Five-year plans have been prepared for some of the fire agencies which are governed by the County Board of Supervisors. These plans identify locations of proposed new stations, as well as station relocations, and financing sources.

Figure 7-6 illustrates the generalized locations of existing fire stations to be retained; existing fire stations proposed for relocation; and locations of new fire stations.

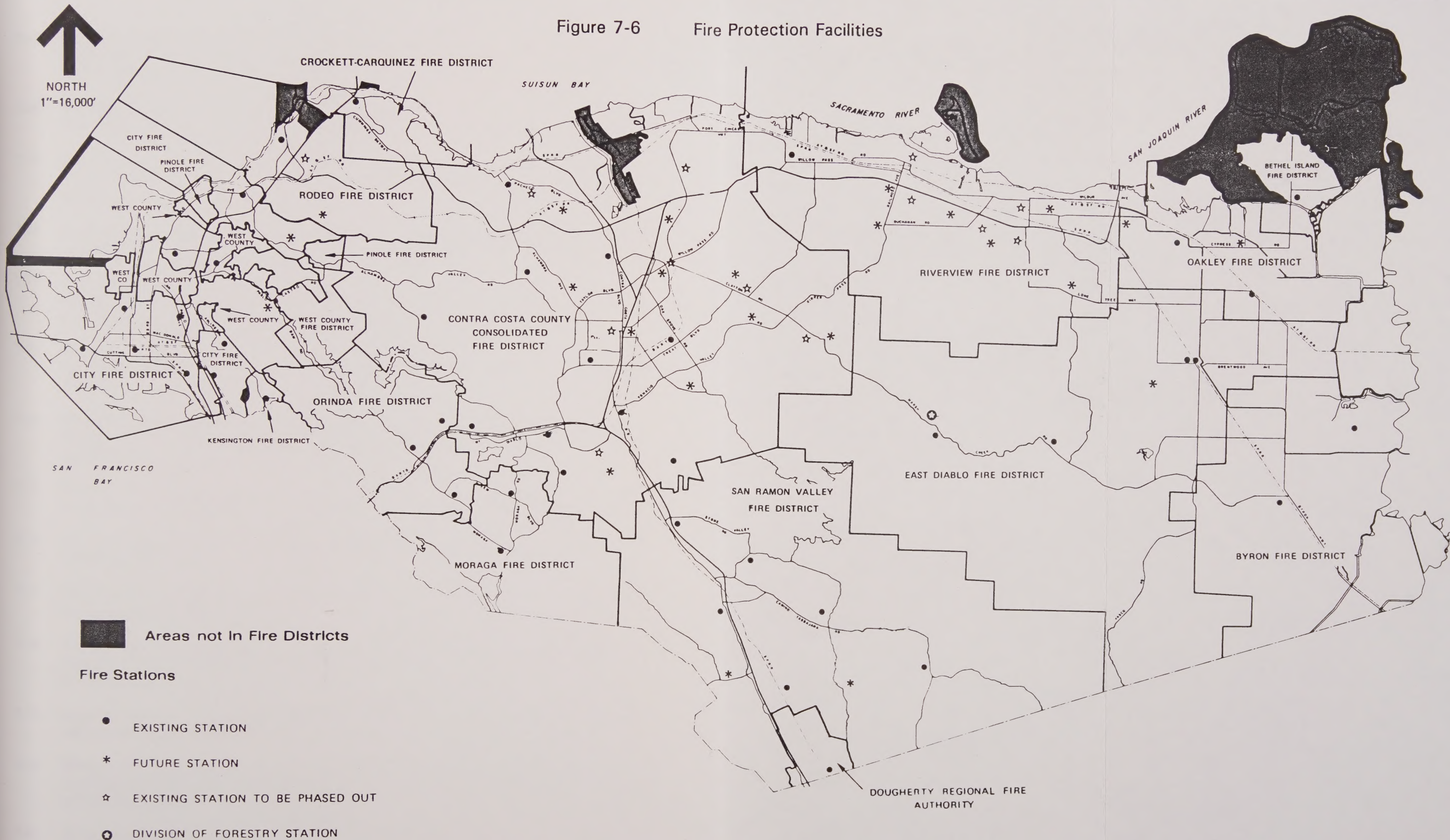
FIRE PROTECTION GOALS

- 7-Y. To ensure a high standard of fire protection, emergency, and medical response services for all citizens and properties throughout Contra Costa County.
- 7-Z. To reduce the severity of structural fires and minimize overall fire loss.
- 7-AA. To incorporate requirements for fire-safe construction into the land use planning and approval process.
- 7-AB. To minimize the cost of fire protection services through utilization of modern fire protection practices and technologies.
- 7-AC. To locate and design new fire stations in a manner compatible with surrounding development.
- 7-AD. To provide special fire protection for high-risk land uses and structures.

FIRE PROTECTION POLICIES

- 7-62. The County shall strive to reach a maximum running time of 3 minutes and/or 1.5 miles from the first-due station, and a minimum of 3 firefighters to be maintained in all central business district (CBD), urban and suburban areas. (These areas are defined in Section 4).
- 7-63. The County shall strive to achieve a total response time (dispatch plus running and set-up time) of five minutes in CBD, urban and suburban areas for 90 percent of all emergency responses.
- 7-64. New development shall pay its fair share of costs for new fire protection facilities and services.
- 7-65. Needed upgrades to fire facilities and equipment shall be identified as part of project environmental review and area planning activities, in order to reduce fire risk and improve emergency response in the County.
- 7-66. Sprinkler systems may be required in new residential structures, where necessary to protect health, safety and welfare.
- 7-67. Consolidation of fire fighting agencies shall be considered where such reorganization will present the opportunity for enhanced level of service and/or lowered costs.

Figure 7-6 Fire Protection Facilities



NOTE: Merger pending between San Ramon Valley Fire Protection District and Tassajara Fire Protection District.

- 7-68. Factors such as response times and distance, call volume and type, population, fire flow requirements, land use, development density and valuation, and access shall be considered when evaluating proposed station locations.
- 7-69. The factors identified in the policy above shall also be used when considering conversion from volunteer to part-paid to full-paid service.
- 7-70. The effectiveness of existing and proposed fire protection facilities shall be maximized by incorporating analysis of optimum fire and emergency service access into circulation system design.
- 7-71. A set of special fire protection and prevention requirements shall be developed for inclusion in development standards applied to hillside, open space, and rural area development.
- 7-72. Special fire protection measures shall be required in high risk uses (e.g. mid-rise and high-rise buildings, and those developments in which hazardous materials are used and/or stored) as conditions of approval or else be available by the district prior to approval.
- 7-73. Fire fighting equipment access shall be provided to open space areas in accordance with the Fire Protection Code and to all future development in accordance with Fire Access Standards.
- 7-74. All new traffic signals shall be equipped with preemptive devices for emergency response services. Existing traffic signals significantly impacted by new development shall be retrofitted with preemptive devices.
- 7-75. Fire stations and facilities shall be considered consistent with all land use designations used in the General Plan and all zoning districts.
- 7-76. The architectural design and landscaping of new fire stations shall be complementary with surrounding land uses.
- 7-77. Fire stations shall be located and designed so as to minimize operating costs and maximize service standards in the area they serve.
- 7-78. Interim fire protection provisions using temporary and relocatable stations shall be considered to meet immediate, existing service needs until such time as permanent stations can be established.
- 7-79. Local fire agencies shall be encouraged to identify and monitor uses involving the handling and storage of hazardous materials.
- 7-80. Wildland fire prevention activities and programs such as controlled burning, fuel removal, establishment of fire roads, fuel breaks and water supply, shall be encouraged to reduce wildland fire hazards.
- 7-81. All structures located in Hazardous Fire Areas, as defined in the Uniform Fire Code, shall be constructed with fire-resistant exterior materials, such as fire safe roofing, and their

surroundings are to be irrigated and landscaped with fire-resistant plants, consistent with drought resistance and water conservation policies.

- 7-82. Recommendations for fire district annexations, consolidations, and other service management programs shall be considered and incorporated when capital facilities funding proposals are formulated.
- 7-83. The potential cost savings of inter-agency sharing of support services and facilities, including training, dispatch, or administrative facilities shall be considered prior to funding capital improvements for fire protection.
- 7-84. The cost effectiveness of new fire protection facility alternatives shall be considered, and the most cost-effective alternative shall be selected prior to implementation of any financing mechanism.
- 7-85. A long-term solution to financing ongoing fire protection, emergency, and medical response services shall be developed.
- 7-86. The five-year plans of the fire agencies should be updated to be consistent with the County General Plan. The fee ordinances should also be amended and fees increased as required to meet new capital requirements.

FIRE PROTECTION IMPLEMENTATION MEASURES

Development Review Process

- 7-as. In considering subdivision map approval, evaluate whether the project would violate the standards expressed in the Growth Management Element, in order to appropriately condition or deny such approval.
- 7-at. The Community Development Department shall include fire agency code requirements requested by the districts as advisory notes to the applicant within proposed conditions of project approval when the Planning Agency is considering subdivisions, development plans, use permits and other entitlement requests.
- 7-au. Fire protection agencies shall be afforded the opportunity to review projects and submit conditions of approval for consideration to determine whether:
 - o there is an adequate water supply for fire fighting;
 - o road widths, road grades and turnaround radii are adequate for emergency equipment; and
 - o structures are built to the standards of the Uniform Building Code, the Uniform Fire Code, other State regulations, and local ordinances regarding the use of fire-retardant materials and detection, warning and extinguishment devices.

Intergovernmental Coordination

- 7-av. The County Building Inspection Department and Community Development Department shall submit building and development plans for all new construction, including remodeling, to the local fire protection agency to assure that fire safety and control features are included that meet the adopted codes and ordinances of that agency.
- 7-aw. Maintain mutual aid agreements among fire protection agencies throughout the County.

Five-Year Plans

- 7-ax. Periodically review and, if necessary, revise five-year plans for fire protection agencies receiving fire facilities fees.

Special Ordinances

- 7-ay. Modify the County Sprinkler Ordinance to be consistent with General Plan policies in this section.
- 7-az. Develop special fire protection and prevention requirements for hillside, open space, and rural area development.

Financing

- 7-ba. Continue to levy fire facility fees for new development in unincorporated areas, in accordance with five-year plans.
- 7-bb. Consider establishment of benefit assessment districts for fire protection purposes. In areas where operating shortfalls will result from increased service requirements related to new growth or the new service standards, the County should establish and/or increase fees generated from the benefit assessment districts.
- 7-bc. Establish a master agreement allowing fire protection agencies to continue to receive tax revenue increases in redevelopment areas, in order to allow agencies to plan for future service needs and financing in these areas.

7.11 SOLID WASTE MANAGEMENT

INTRODUCTION

The California Legislature recently enacted a comprehensive revision of the State's solid waste management planning process, known generally as AB 939, the California Integrated Waste Management Act of 1989 (CIWMA). Among other things, this Act established a new, integrated waste management planning process whereby cities and counties must achieve adopted waste diversion goals for source reduction recycling and composting programs. Specifically, each county must prepare and adopt a County-wide Integrated Waste Management Plan (CoIWMP) to replace its existing County Solid Waste Management Plan (CoSWMP), as discussed below. In addition, the Act established an "Integrated Waste Management Hierarchy," a State policy requiring that waste management practices have the following order of priority: source reduction, recycling and composting, environmentally safe transformation (incineration) and environmentally safe landfill disposal.

The CoIWMP must include a source Reduction and Recycling Element prepared and adopted by each city within a county, as well as by each county for the unincorporated areas therein; these elements must identify the means by which such local governments will divert from their waste streams 25 percent of the landfilled solid wastes by the year 1995, and 50 percent (or the maximum feasible amount) by the year 2000. The CoIWMP must also include a County-wide Siting Element which must identify existing or new facilities with sufficient disposal capacity for 15 years of the residual solid waste stream that is not reduced at the source, recycled, composted or transformed. The 1989 Act repeals the general provisions of prior law regarding CoSWMPs, but an existing CoSWMP can provide the basis for countywide landfill siting before a new CoIWMP is approved. Public Resources Code section 50000 (as enacted by Assembly Bill 2296 in 1990). Pursuant to section 50000, the County's CoSWMP may serve as the basis for permitting and siting of landfills.

The cities' Source Reduction and Recycling Elements are to be submitted to their respective counties by July 1, 1991; the counties must complete similar Elements by January 1, 1991. All such elements must be approved by the reconstituted CIWMB either before or together with the remainder of such counties' CoIWMP. The CoIWMP must first be approved by both the county board of supervisors and by a majority of cities within the county whose collective population

constitutes a majority of those people living in the incorporated areas of that county. These plans must then be submitted for approval to the CIWMB on a priority schedule depending upon the amount of landfill capacity remaining within the submitting county. For counties with less than five years of remaining landfill capacity, as is the case for Contra Costa County, the CoIWMP must be submitted for approval by January 1, 1992.

As discussed above, although the County must adopt a CoIWMP under the 1989 Act, the County's 1989 CoSWMP can serve as authority for permitting and siting landfills until the CoIWMP is adopted. The 1989 CoSWMP represents the most recent comprehensive consideration of solid waste management planning within Contra Costa County.

These planning laws, along with new facility regulations by the Regional Water Quality Control Board and Bay Area Air Quality Management District, have resulted in a new era for solid waste management in the 1990s. Laws and regulations continuously change to strengthen environmental protection and to encourage and legislate waste minimization.

In Contra Costa County the private sector has traditionally been responsible for solid waste collection and disposal. Approximately 750,000 tons per year of solid waste is generated by residences, businesses and industries in the County. More detailed information regarding the source of these wastes is documented in the CoSWMP.

The role of government in solid waste management is one of planning, administration, and facility approval. Fourteen of the 18 cities and eight special districts franchise solid waste collection. This means that the cities and districts enter into franchise agreements with private collectors to provide for collection services. As mentioned previously, cities and the County are responsible for development of the CIWMP. Cities and counties also have land use approval over solid waste facilities located within their jurisdiction.

It is noted that all of the disposal facilities, as well as the collection services, are privately owned. As a result, the range of actions, including new facility applications, landfill expansions, waste stream diversions, and the use of landfills in other counties, requires private sector-initiated applications or agreements as well as government policy direction and approvals.

Presently, there are three separate landfill sites disbursed geographically throughout Contra Costa County, with one site serving West County, one serving Central and South County, and another serving East County. All of these sites have very limited capacity and will be closed in the near future. At this time, it is unknown where new landfill sites will ultimately be sited. Given new regulations and siting criteria, it is unlikely that landfills will be located near the urbanized shoreline areas of the County. However, solid waste transfer stations, processing facilities, and waste to energy projects may be located in urban/industrial areas due to the nature of these facilities.

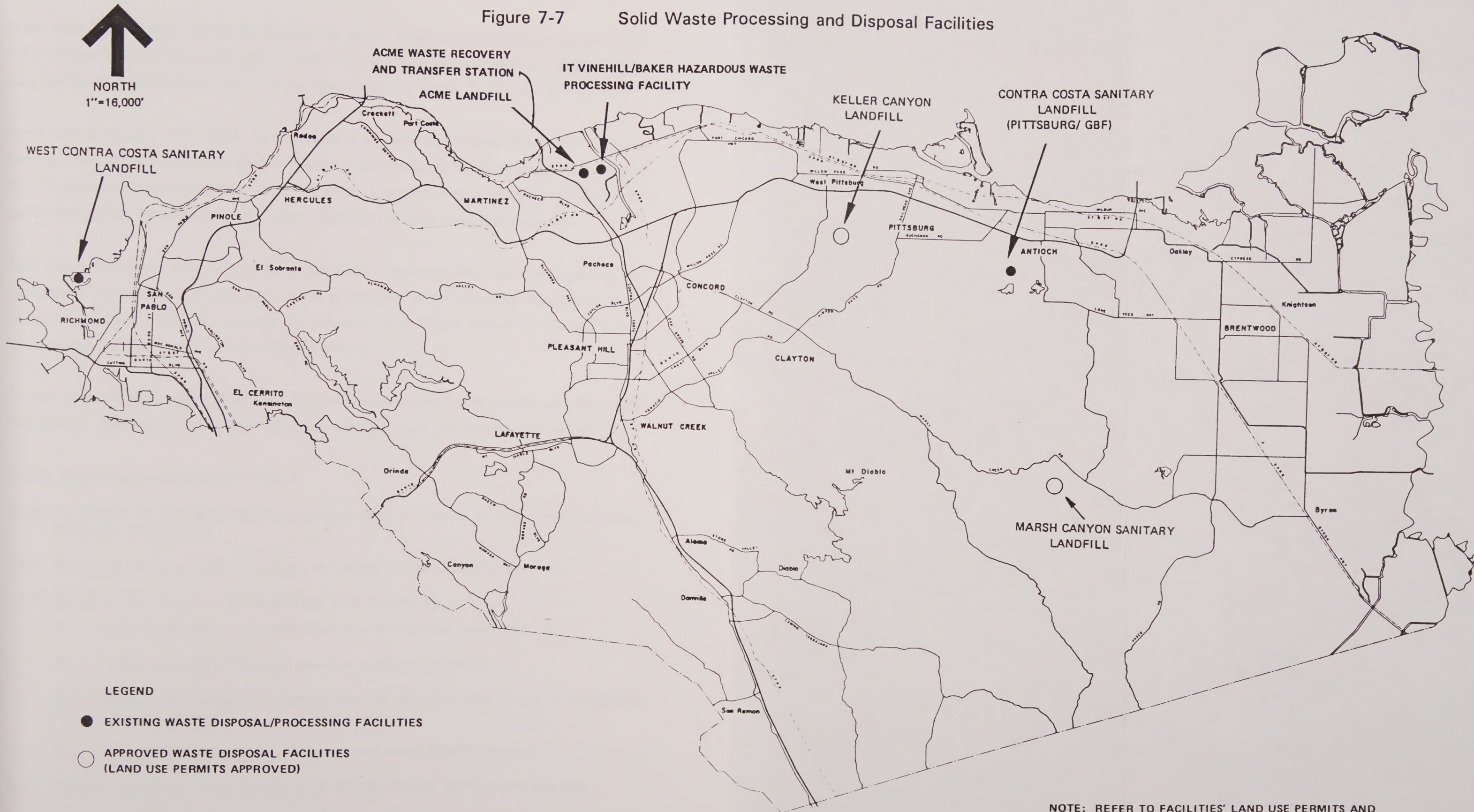
Map of Solid Waste Facilities

As indicated in Figure 7-7, there are three existing landfills and one transfer station in the County. The Acme Fill transfer station has recently been approved and is under construction. Figure 7-7 also identifies potential locations of new sanitary landfills or transfer stations. Originally, five sanitary landfill sites were proposed in the Contra Costa County Solid Waste Management Plan/General Plan Amendments Draft EIR (May 1989); Marsh Canyon, Keller Canyon, East Contra Costa Sanitary Landfill (Geraventa), Kirker Pass, and Bay Pointe.

Presently, two of these five sites have received further approvals, and three sites are not under consideration at this time. The Kirker Pass site was removed from consideration by the Board of Supervisors in February 1990, in response to a referendum petition. The Bay Pointe site was removed from consideration by the Board of Supervisors in the Fall of 1990. The Garaventa site was removed from consideration by the County voters in the election of June 1990 when they failed to approve the General Plan amendment for the Garaventa site (after a referendum petition was filed).

The County approved land use permits for the Keller Canyon and Marsh Canyon sites. Both sites were the subject of recent ballot measures. When the Board of Supervisors originally approved the Keller Canyon General Plan amendment, a referendum petition was filed challenging that approval. This referendum was Measure C on the June 1990 ballot. No referendum petition was filed against the General Plan amendment for the Marsh Canyon site, and the Board approved a use permit for a landfill at Marsh Canyon in March 1990.

Figure 7-7 Solid Waste Processing and Disposal Facilities



NOTE: REFER TO FACILITIES' LAND USE PERMITS AND GENERAL PLAN AMENDMENTS FOR SITE AREA INFORMATION.

In the June 1990 election, the voters rejected the Keller Canyon referendum and approved the Keller Canyon General Plan amendment by approximately 55 percent to 45 percent. Following this plan, the Board of Supervisors approved a use permit for the Keller Canyon site in July, 1990.

In the interim, an initiative petition was submitted to prevent development of a landfill at Marsh Canyon. This initiative appeared on the November 1990 ballot as Measure E, and was rejected by a margin over 62 percent to less than 37 percent. The provisions of this Plan relating to the landfill sites reflect and implement the voters' decisions on these two ballot measures.

Note that a discussion, along with goals, policies, and implementation measures, regarding the management and disposal of hazardous wastes is included in the following "Hazardous Waste Management" section. Policies regarding the transport of hazardous wastes are included in the "Hazardous Land Uses" section of the Safety Element.

In order to provide adequate and effective solid waste disposal services in keeping with the growth management objectives of the General Plan, the following goals and policies were developed.

SOLID WASTE MANAGEMENT GOALS

- 7-AE. To provide for the safe, efficient, and cost-effective removal of waste from residences, businesses, and industry.
- 7-AF. To provide adequate disposal capacity at landfills for the County's solid waste.
- 7-AG. To reduce the amount of waste disposed of in landfills by:
 - 1) reducing the amount of solid waste generated (waste reduction);
 - 2) reusing as much of the solid waste as possible (recycling);
 - 3) utilizing the energy and nutrient value of the solid waste (waste to energy and composting); and
 - 4) to properly dispose of the remaining solid waste (landfill disposal).
- 7-AH. To divert as much waste as feasible from landfills through recovery and recycling.
- 7-AI. To assure the development of waste transfer, processing, and disposal facilities which satisfy the highest established environmental standards and regulations.

- 7-AJ. To minimize the potential impacts of waste collection, transportation, processing, and disposal facilities upon residential land uses.
- 7-AK. To provide for the safe and efficient handling of special wastes.

SOLID WASTE MANAGEMENT POLICIES

- 7-87. The County shall maintain a leadership role in the development of solid waste disposal facilities in cooperation with private collection and disposal businesses, the cities, and other local and regional public agencies.
- 7-88. Solid waste disposal capacity shall be considered in County and city land use planning and permitting activities, along with other utility requirements, such as water and sewer service.
- 7-89. The planning and operation of solid waste management facilities shall be coordinated with adjoining counties and with the cities within the County.
- 7-90. The County shall assume a leadership role in the development of a comprehensive program for solid waste resource recovery in cooperation with private collection and disposal businesses and other local and regional public agencies.
- 7-91. Solid waste resource recovery (including recycling, composting, and waste to energy) shall be encouraged so as to extend the life of sanitary landfills, reduce the environmental impact of solid waste disposal, and to make use of a valuable resource, provided that specific resource recovery programs are economically and environmentally desirable.
- 7-92. Waste diversion from landfills due to resource recovery activities shall be subject to goals included in the County Solid Waste Management Plan. Public agencies and the private sector should strive to meet these aggressive goals.
- 7-93. As soon as practical, landfills shall be located within the boundaries of Contra Costa County to guarantee that the County's wastes can be disposed of without requiring approval of jurisdictions outside the County, to minimize transportation and disposal costs, to be responsible for the waste that is generated, and to ensure that County residents are not subject to waste import surcharges from other jurisdictions.
- 7-94. Contra Costa County should provide more than one landfill in the future to share the risk and impact of solid waste disposal as equitably as is practical, to reduce the risk of running out of landfill capacity, to minimize the distance that solid waste is hauled in the County, and to create competition in pricing to ensure fair disposal fees.
- 7-95. New landfills should each have a minimum capacity to handle half the County's total waste stream for at least 20 years. Siting efforts should continue until additional landfill capacity is available to handle all of the County's solid waste stream for a minimum of 50 years.
- 7-96. Landfills shall be located only on lands designated LF, and shall not be located on other lands (existing landfills may continue to operate under their previous authorizations). LF lands may be located within or surrounded by open space lands. New sanitary landfill sites

(other than Keller Canyon and Marsh Canyon, which are designated in this Plan) shall not be located in designated environmentally sensitive areas. Such new landfill sites shall not be located within any area designated for open space uses unless the landfill operation is adequately screened from view along roadways.

- 7-97. New waste disposal facilities shall be located to minimize potential impacts upon existing and future residents. Waste disposal and processing facilities shall be designed, developed, and operated in a manner that is compatible with surrounding land uses.
- 7-98. Solid waste disposal sites shall be designed and operated to provide useful sites after completion of disposal operations. Re-use of sites for outdoor recreation and open space, where feasible, shall be encouraged.
- 7-99. Traffic at landfills and transportation costs shall be reduced through the use of transfer stations.
- 7-100. The general public (in cars and small trucks) shall be restricted from direct access to landfills; instead, these types of vehicles shall be directed to transfer stations. The need for transfer stations shall be based on economics, the need to mitigate traffic impacts, and the need to inspect refuse for hazardous materials and recyclables.
- 7-101. Transportation routes to transfer stations and landfills shall be included as conditions of approval in permits for the facilities, in order to identify preferred access routes which reduce traffic impacts on communities adjacent to and along the access routes.
- 7-102. Solid waste hauling on collectors and local streets through residential areas should be avoided.
- 7-103. Applications to establish solid waste facilities shall be required to adopt General Plan amendments in order to achieve consistency with existing plans, to implement on-site and/or off-site compensatory measures for loss of existing site land use, and to implement mitigation measures identified in project-specific EIR's.

SOLID WASTE MANAGEMENT IMPLEMENTATION MEASURES

Solid Waste Management Plan

- 7-bd. Ensure that solid waste activities in Contra Costa County are carried out in accordance with the Solid Waste Management Plan and are coordinated with other jurisdictions.
- 7-be. Utilize and update the County's Solid Waste Management Plan as the principal planning document for solid waste management in the County, and ensure that its policies are based upon the population projections and geographic distributions set forth in the Land Use Element of this General Plan.
- 7-bf. Encourage cities and districts to prepare recycling/composting plans to show how they intend to help meet the goals included in the County Solid Waste Management Plan. Provide guidance and information to cities in meeting this requirement.

Review and Inspection of Facilities

- 7-bg. To ensure the health and safety of the public, inspect solid waste facilities and equipment on a regular basis.
- 7-bh. Review, and amend if necessary, the Zoning Ordinance and other code sections, to ensure that waste disposal facilities are regulated to preclude all nuisance and unsightly conditions.
- 7-bi. Review land use permits for solid waste facilities at least every five years to determine if any modifications to specified conditions need to be made, to ensure that the facility is operated in an environmentally sound manner consistent with the best technology available and to ensure that the facility will remain compatible with adjacent land uses.
- 7-bj. Require that all proposed solid waste management facilities comply with California Code of Regulations Title 23, Chapter 3, Subchapter 15 requirements (Subchapter 15); comply with applicable fire district and permitting agency approval of an applicant-submitted Fire Control Plan; comply with Bay Area Air Quality Management District requirements; and comply with County requirements regarding household hazardous waste programs.
- 7-bk. Require that all proposed solid waste management facilities manage truck traffic to minimize peak-hour trips; up grade and improve identified pavement sections of roadway; limit facility hours of operation; manage access routes to facilities; and require mufflers on trucks and equipment.
- 7-bl. Require compliance of solid waste facilities with regulatory and permitting agencies, including the Bay Area Air Quality Management District and the County, to reduce impacts from landfill gas generation, waste-to-energy facility air emissions and dust emissions to an insignificant level.
- 7-bm. Require that all proposed solid waste management facilities include the following conditions of approval for a facility Land Use Permit and other regulatory requirements: prepare and adopt an appropriate leachate collection and recovery system, and an approved erosion control and drainage plan.
- 7-bn. Require all proposed solid waste management facilities to prepare geotechnical studies, including stability analysis, during site-specific environmental review. These studies shall determine the final engineering design of solid waste facilities and become mitigation measures which are incorporated into the land use permit conditions of approval for a site.
- 7-bo. Require compliance by landfills with Subchapter 15 Class II requirements, including minimum vertical separation between landfill and groundwater, installation of a low permeability clay liner and/or a plastic liner, a subdrain system, and a leachate control and removal system, in order to help mitigate impacts on surface and groundwater where such measures are deemed necessary by the Board of Supervisors during application review.

Development Review Process

- 7-bp. Review and amend existing ordinances and procedures to ensure that the review and approval of development applications is carried out in accordance with the applicable goals, policies, and implementation measures included in the Solid Waste Management Plan.
- 7-bq. When landfills are proposed, ensure that the need for transfer stations is identified consistent with the criteria in the County Solid Waste Management Plan.
- 7-br. Require that conditions of approval for transfer stations and landfills identify preferred access routes.
- 7-bs. Utilize the capacity criteria included in the County Solid Waste Management Plan when reviewing applications for new solid waste landfills, as well as the preference to have more than one landfill within the County.
- 7-bt. Require proposed solid waste management facilities to reduce visual impacts of any facility by implementing appropriate mitigation measures, such as installing visual berms; limiting the area of landfill activities; planning temporary and permanent vegetation to match existing visual character and screen operations; covering refuse daily (or more frequently); erection of fencing; and collecting litter.
- 7-bu. Require all proposed solid waste facilities to comply with the archaeological resource protection policies of the County General Plan. If a historic site is discovered during construction of a facility, work would cease allowing for a site evaluation by an historic archaeologist and, if warranted, a data recovery phase to be initiated. If significant known sites are encountered before construction begins, the applicant shall be required to develop and implement a plan, in conjunction with an archaeologist, to reduce potential impacts to archaeological resources to less-than-significant levels.
- 7-bv. Require a wetland and/or other habitat enhancement plan be developed and implemented by the landfill applicant in conjunction with the appropriate resource management agencies. At a minimum, this plan should provide for an acre-for-acre an unit-for-unit replacement for lost significant habitat.
- 7-bw. To partially mitigate topographic impact, the site developer will be required to submit a grading plan that is designed to blend the landfilled area with the surrounding topography. Additional site-specific mitigation measures, including visual screening, may be included in the project-level tier EIR.

7.12 HAZARDOUS WASTE MANAGEMENT**INTRODUCTION**

In response to the growing concern for the need to plan for the effective management of hazardous waste so that the protection of public health and safety and the environment is ensured, the California Legislature enacted a law which authorized counties and regional council of

governments to prepare Hazardous Waste Management Plans. The intent of this law was to establish a comprehensive planning process in which State and local governments, the public, environmental groups, and industry jointly develop safe and effective solutions for the management and disposal of hazardous waste. The Contra Costa County Hazardous Waste Management Plan, prepared pursuant to State law, is a comprehensive analysis of all aspects of hazardous waste management from generation through disposal.

Contra Costa County, which historically has been an industrialized county, is one of the largest generators of hazardous waste in the State. Businesses generating the majority of the County's estimated 425,000 annual tons of hazardous waste are located along the industrial waterfront rim of the County. Two-thirds of the hazardous waste generated within the County is treated on the site where it is created, with the remaining one-third transported by truck or rail to commercial hazardous waste management facilities.

With the closure of the International Technology Class I hazardous waste disposal facility, all hazardous wastes which require commercial treatment or disposal, approximately 161,000 tons per year, are shipped out of the County. One of the primary goals of the County Hazardous Waste Management Plan is to determine and provide for the capacity of commercial hazardous waste management facilities that will be needed through the year 2000, to enable the County to manage the hazardous wastes that it produces.

Historically, the burden of providing commercial hazardous waste facilities for the State has been placed upon the four counties, one of which was Contra Costa, in which the Class I hazardous waste management facilities were located. One of the guiding principles in the development of the county plans is that each county should provide the necessary commercial hazardous waste management facilities to meet their needs, so that the burden is equally distributed throughout the State and the nation.

Providing for the fair-share distribution of facilities throughout the State and ensuring that California has adequate facilities to manage its needs can be accomplished by implementing the "fair-share" policy outlined in this section.

The Contra Costa County Hazardous Waste Management Program is established to ensure the safe and responsible management of hazardous waste within the County. This program is based on the following "hierarchy of waste management policies." The intent of the plan is to manage hazardous wastes by emphasizing the first policy as the primary determinant; if a course of action based upon the first policy is proven to be unfeasible, the second, third, fourth, and fifth policies shall be followed in that order. The hierarchy is as follows:

- o reduction of the use of hazardous substances and the generation of hazardous waste at their source;
- o recovering and recycling of the remaining waste for reuse;
- o treatment of those wastes not amenable to source reduction or recycling so that the environment and community health are not threatened by their ultimate disposal;
- o increase of those wastes amenable to this technology; and
- o proper disposal of treated residuals in approved residual repositories (disposal facilities such as Class I landfills).

The focus of the County's hazardous waste management strategy is to reduce the waste that is generated and to facilitate businesses to utilize waste management methods that are "higher" on the waste management hierarchy of policies.

The County Hazardous Waste Management Plan will be the primary planning document for hazardous waste management within the unincorporated areas of the County and within the 18 cities. The County Hazardous Waste Management Plan is incorporated, by reference, into the County General Plan. The Plan establishes goals and policies for the safe management of hazardous waste, and recommends the establishment of a variety of programs designed to manage more effectively the hazardous waste produced and to reduce by 30 to 40 percent the hazardous waste generated, using 1984 as a base from which to measure. The Plan also sets forth siting criteria that will be used to determine whether a proposed commercial hazardous waste management facility may be located within the County.

Map of Hazardous Waste Facilities

There are three existing landfills and one transfer station in the County, as indicated in Figure 7-8. The Acme Fill transfer station has recently been approved and is under construction. Figure 7-8 does not identify potential locations of new hazardous waste treatment facilities, landfills, or transfer stations. This General Plan instead requires that any refuse disposal facility that is proposed must apply for an amendment to the Plan as part of the approval process.

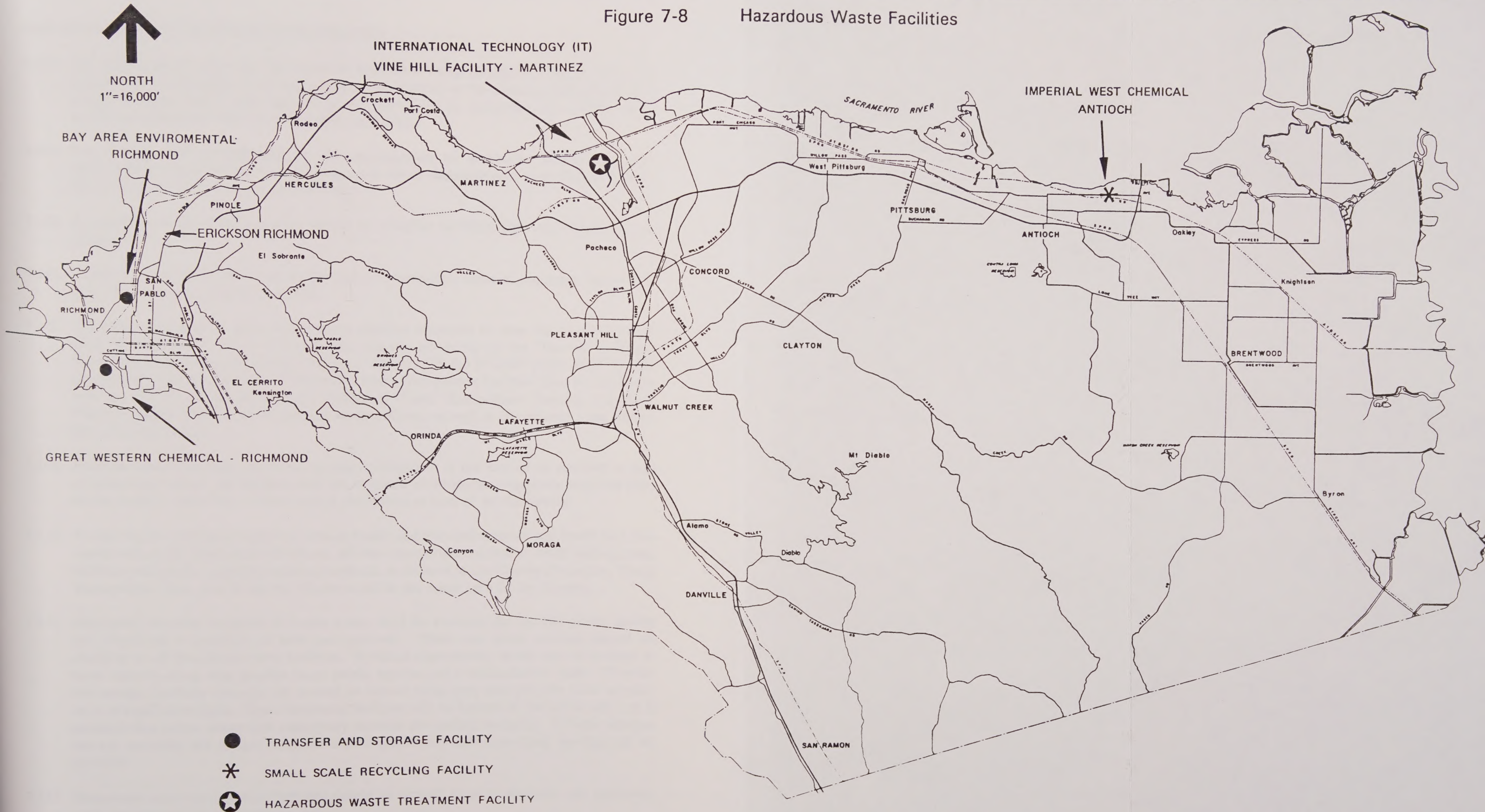
Note that goals, policies and implementation measures involving the transportation of hazardous materials, as well as buffering requirements to be applied to certain hazardous land uses in the County, are found in the "Hazardous Land Uses" section of the Safety Element. Readers should refer to both of these sections in the General Plan to determine policies that affect all types of hazardous uses or materials.

To assure adequate disposal of hazardous substances for the planning period, the following goals and policies were developed.

HAZARDOUS WASTE MANAGEMENT GOALS

- 7-AL. To manage the hazardous wastes that Contra Costa County produces by determining and providing for the capacity of commercial hazardous waste management facilities that will be needed in the future.
- 7-AM. To eliminate the generation and disposal of hazardous waste materials to the maximum extent feasible, by:
 - 1) reducing the use of hazardous substances and the generation of hazardous waste at their source;
 - 2) recovering and recycling the remaining waste for reuse;
 - 3) treating those wastes not amenable to source reduction or recycling so that the environment and community health are not threatened by their ultimate disposal;
 - 4) incinerating those wastes amenable to this technology; and
 - 5) properly disposing of treated residuals in approved residual repositories.
- 7-AN. To minimize the need for additional and/or replacement hazardous waste disposal sites.

Figure 7-8 Hazardous Waste Facilities



CONTRA COSTA COUNTY
CALIFORNIA

HAZARDOUS WASTE MANAGEMENT POLICIES

- 7-104. The County shall follow the "hierarchy of hazardous waste management goals" above by emphasizing the first goal (reducing waste at the source) as the primary determinant; if a course of action based upon the first goal is proven to be unfeasible, the second, third, fourth and fifth goals shall be followed in that order.
- 7-105. The County shall actively support the development of alternative technologies and methodologies of hazardous waste management which demonstrate a reduction in relative risk to human health and the environment.
- 7-106. A hazardous waste transfer station should be available in West, East and North Central County.
- 7-107. Contra Costa County will accept its fair share of hazardous waste management facilities to serve the local area, region and State.
- 7-108. The siting of hazardous waste management facilities necessary to meet the County's needs shall be encouraged within Contra Costa County, according to the "Hazardous Waste Management Planning and Siting Principle," identified in the HWMP (refer to p. III-1 of the HWMP). To be sited off-site hazardous waste management facilities must be consistent with the HWMP (which includes the Hazardous Waste Management Planning and Siting Principle; siting criteria; and hazardous waste polices), as well as the criteria presented in the following policies.
- 7-109. Facilities shall be designed to minimize risk to neighbors in the case of an accident or spill of hazardous wastes. All facilities shall be required to adopt an emergency response plan which includes immediate notification of the public in case of an emergency.
- 7-110. To the degree necessary to protect human health and the environment and based on a risk assessment or environmental document, off-site commercial hazardous waste management facilities with similar general treatment methods, as defined in the County Hazardous Waste Management Plan, should not be concentrated in the same area of the County.
- 7-111. Emergency services, available 24 hours a day, shall be available for the life of the facility and should be a condition of land use approval. Water and sewer services should be available to all hazardous waste facilities. Residual repositories, which may be located in more remote areas, may provide these public services on a self-sufficient basis. Transfer and storage facilities that may be located in remote areas may also provide these services on a self-sufficient basis. Since treatment facilities will be located in industrial areas, it is assumed that water, sewer and emergency services are readily available. If these services are not available, the project proposal should specifically state how these services will be provided.
- 7-112. Hazardous waste management facilities should be located so as to minimize any additional noise impacts on the surrounding area.

- 7-113. All hazardous waste management facilities shall be located in areas where access roads leading to major transportation routes (e.g. arterials, freeways, or expressways) do not pass through residential neighborhoods, where residential frontage is minimized, is buffered, or has physical barriers, and where road networks are demonstrated to be relatively safe with regard to road design, construction, accident rates, and traffic flow. This policy does not apply to facilities solely dedicated to the collection and transfer of household hazardous waste.
- 7-114. Residual repositories shall be prohibited within areas known or suspected to be supplying principle recharge to a regional aquifer, or within areas that utilize a residential well system, as defined in the adopted general, regional or state plans. Treatment-type facilities should be discouraged from being located in such areas. If treatment-type facilities are located in these areas, facilities must provide properly engineered spill containment features, inspection measures, and other environmental protection controls.
- 7-115. Hazardous waste facilities shall not be located within the watershed of drinking water reservoirs or proposed drinking water reservoirs shown in the County or a City's General Plan.
- 7-116. Facilities located within areas with unstable soils shall have engineered design features to assure structural stability. This category includes steep slopes and areas subject to liquefaction and subsidence due to natural causes.
- 7-117. Facilities shall not be located in wetlands, such as saltwater, freshwater and brackish marshes, swamps and bogs inundated by surface or groundwater with a frequency to support, under normal circumstances, a prevalence of vegetative or aquatic life which requires saturated soil conditions for growth and reproduction as defined in the adopted general, regional and State plans. The health risk assessment and environmental impact reports prepared for hazardous waste management facilities shall consider the need for buffer zones to separate the facility from environmentally sensitive land uses such as wetlands and critical habitat areas.
- 7-118. A buffer zone of 2,000 feet is required for residual repositories based on the requirement in the Health and Safety Code, Section 25202.5(b)(d), unless the owner proves to the satisfaction of the State Department of Health Services that a 2,000-foot buffer zone is not required to protect public health and safety. A larger buffer zone may be required for residual repositories based on risk assessments and the environmental impact report for the project.

For treatment-type facilities, risk assessments shall be made when permitting a facility. This assessment will consider the physical and chemical characteristics of the specific types of waste that will be handled, the design features of the facility, and any need for buffering residential or other sensitive areas from adverse emissions or contamination. Additional buffer zone requirements may be identified by the environmental impact report.

- 7-119. Risk assessments performed and completed during the permitting process, shall be used to determine the need for buffer zones between all proposed hazardous waste facilities and immobile populations. The risk assessment will consider the physical and chemical characteristics of the specific types of waste which will be handled, the design features of

the facility and the proximity to immobile populations. Immobile populations include schools, hospitals, convalescent homes, prisons, facilities for the mentally ill, etc.

- 7-120. The accelerated clean-up of contaminated sites, including containment of the sites as quickly as possible, shall be supported, commensurate with minimizing the risk to the environment and to public health.
- 7-121. Health risk screening, as required by the Bay Area Air Quality Management District or other regulatory agencies, shall be completed for all proposed hazardous waste facilities. Health risk assessments shall be prepared if determined as necessary by the health risk screening. Risk assessment analysis should include the cumulative impacts of other hazardous waste management facilities in the general area, as well as other sources of pollutants which are present in the general area. The risk assessment and environmental impact report should address health and environmental risks and impacts including acute and chronic health risks, risk to major transportation corridors and impacts from catastrophic events. If a hazardous waste incinerator is proposed a health risk assessment should be required.
- 7-122. Facilities near rivers, streams, creeks, lakes, etc. must have engineered structural design features to ensure that mitigation of waste will not occur (e.g., spill containment and monitoring devices).
- 7-123. The health risk assessment and environmental impact reports for hazardous waste facilities shall consider the need for buffer zones to separate the facility from environmentally sensitive land uses such as wetlands and critical habitat areas.
- 7-124. If mitigation of air quality impacts take the form of offsets, the offsets obtained shall be from sources as near to the proposed facility as possible.
- 7-125. For all facilities, road networks leading to major transportation routes should be demonstrated to be safe with regard to road design and construction, accident rates, excessive traffic, etc. For residual repositories, it is preferable to have good access to major transportation routes. These facilities may be more distant from waste generation sites than other types of facilities because of their need for larger land areas. Treatment facilities should be located so as to minimize distances to major transportation routes that are designed to accommodate heavy vehicles.
- 7-126. Land use permits for hazardous waste facilities shall be subject to periodic review to determine if any modifications to specified conditions need to be made. This will help to ensure that the facility is operated in an environmentally sound manner consistent with the best technology available to the industry, and that it will remain compatible with adjacent land uses.
- 7-127. No hazardous waste facility should be sited so as to preclude extraction of minerals necessary to sustain the economy of the State.
- 7-128. Public hazardous waste facilities shall not be located on military lands.

- 7-129. Hazardous waste management facilities shall not be located in recreational, cultural or aesthetic areas.
- 7-130. Treatment facilities should be located close to the waste generation sources to minimize the risks associated with transportation. Residual repositories may be located more distant from waste generation sources than treatment-type facilities because of their need for larger land area.
- 7-131. Facilities shall not be located within two hundred feet (200) of any active or recently active fault (California Administrative Code, Title 22, Section 66391) or a fault considered important in the Seismic Safety Element of the Contra Costa General Plan. A greater setback may be required based on information from an environmental impact report.
- 7-132. Residual repositories shall not be located in areas subject to 100-year flood events. This is a requirement of the Code of Federal Regulations (Title 40, Section 264.18(b)), and of the California Administrative Code (Title 22, Section 66391(a) (11)(b)). Treatment facilities may be built in areas subject to 100-year flooding if protected by engineered solutions (such as berms, raising above flood levels, etc.) and if they meet all other flood protection requirements, including consideration of the expected future rise in sea level. Access roads leading to hazardous waste facilities shall be protected from 100-year flood events.
- 7-133. Facilities shall not be located within critical habitat areas, as defined in the adopted general, regional or State plans. The health risk assessment and environmental impact reports prepared for hazardous waste facilities shall consider the need for buffer zones to separate the facility from environmentally sensitive land uses such as wetlands and critical habitat areas.
- 7-134. Residual repositories must conform to the requirements of the State Water Resources Control Board as stated in Sub-Chapter 15 of Title 23 of the California Code of Regulations. For treatment-type facilities, all above-ground facilities must have engineered structural design features, common to other types of industrial facilities. This includes spill containment and monitoring devices.
- 7-135. The siting of facilities should not be precluded from Non-Attainment Air Areas unless risk assessments performed as part of the permitting process, which consider the physical and chemical characteristics of the specific types of waste that will be handled and the design features of the facility, show that emissions will significantly contribute to the non-attainment of standards, that such emissions cannot be mitigated and that emissions from such facilities are significantly greater than those associated with the transportation of hazardous waste out of the area.

Facilities may be established within Prevention of Significant Deterioration areas unless an analysis for a proposed facility shows that air emissions cannot be adequately mitigated.

- 7-136. Prime Agricultural Lands, under California Law, may not be used for urban purposes (including hazardous waste facilities), unless an overriding public need is serviced. When siting hazardous waste management facilities in these areas, overriding public service needs must be demonstrated.

- 7-137. Residual repositories shall meet the depth to groundwater siting requirements of the State Water Resources Control Board as stated in Sub-Chapter 15 of Title 23 of the California Code of Regulations. Treatment facilities may be located in high groundwater areas if the engineered design of the containment structure is capable of withstanding failure because of geologic or soil failures which may arise.
- 7-138. Potential adverse impacts which could occur because of the proximity of hazardous waste facilities to places where large numbers of people may gather shall be determined as part of the risk assessment conducted in the permitting process. The risk assessment shall consider the physical and chemical characteristics of the waste that will be handled and the design features of the facility.
- 7-139. Treatment-type facilities shall only be sited in areas designated for industrial (heavy and light) use in the General Plan of the agency with local land use jurisdiction (the County or a City). If a treatment-type facility is proposed in a non-industrial area, a General Plan Amendment will be necessary to re-designate the property as industrial (or designation substantially equivalent to industrial) or a special designation for hazardous waste facilities in order to be consistent with the Hazardous Waste Management Plan.)

HAZARDOUS WASTE MANAGEMENT IMPLEMENTATION MEASURES

Hazardous Waste Management Plan

- 7-bx. Establish a coordinated program of public awareness and public education for the implementation of the County Hazardous Waste Management Plan, especially for the siting of the needed new hazardous waste management facilities.

Development Review Process

- 7-by. Review and amend ordinances and procedures to ensure that the review and approval of development applications is carried out in accordance with the applicable goals, policies, and implementation measures included in the Hazardous Waste Management Plan.
- 7-bz. Require a site specific transportation analysis for each hazardous waste facility proposed within Contra Costa County, and request an analysis for projects proposed in adjacent counties, to determine how localized traffic and safety impacts can be mitigated.

New Ordinances and Programs

- 7-ca. Prepare and adopt an ordinance that would require businesses to submit to the County plans for waste minimization, as well as hazardous waste generation, treatment and disposal reports currently sent to other regulatory agencies.
- 7-cb. Establish a Waste Minimization and Small Business Generator program, which will provide direct assistance to businesses and industries to minimize waste generation.

- 7-cc. Establish a household Hazardous Waste Disposal program, which will provide ongoing collection sites for household hazardous wastes and will use a public education/awareness program to encourage the use of non-hazardous products.
- 7-cd. Establish a comprehensive Public Education program, which should include a school curriculum program, an elected officials program, and a media program to create a better understanding of hazardous waste management issues throughout the County.
- 7-ce. Develop a program to inventory information on contaminated sites, which will allow the County Health Services Department to advise local Planning Departments on the need to restrict or control land uses in the vicinity of these sites.
- 7-cf. Prepare and adopt an ordinance which would require the formation of Citizen Communication and Information panels for new commercial hazardous waste facilities and would encourage the establishment of these panels for existing facilities. The intent of these panels is to establish and maintain communication between the facility and the local community.
- 7-cg. As data is derived from generator programs administered by the County Health Services Department, establish additional policies or programs, as needed, to assist the small generators in effectively reducing and managing their hazardous waste.

Intergovernmental Coordination

- 7-ch. Work diligently with other counties, regional governments and the State to ensure that the fair share concept will provide the needed hazardous waste management facilities throughout the State.
- 7-ci. Request that the County Hazardous Materials Commission review local regulatory programs to ensure coordination of regulatory activities.
- 7-cj. Request the State Department of Health Services to develop a program to provide counties with import/export data necessary to meet inter-county information sharing requirements.
- 7-ck. Lobby with the State, the Federal government and the private sector, to encourage changes in product development, labeling, packaging and handling to reduce the amount of household hazardous waste that is generated.
- 7-cl. Encourage local law enforcement agencies and the California Highway Patrol to increase inspections of hazardous waste/materials carriers.

7.13 SCHOOLS

INTRODUCTION

The provision of adequate school facilities and an effective education program is necessary to the long range economic health and vitality of the County. The financing and implementation of school facilities is shared by the State, local school boards, and the Contra Costa County Junior College District.

Although the State of California has preempted the field of provision of school facilities through exactions on development projects, it is the responsibility of local government to ensure that the timing of growth is coordinated with the efforts of the school districts to provide school facilities. For this reason, the Contra Costa County General Plan addresses the provision of school facilities. It is well recognized in California that all children have a right to equal access to quality educational opportunities. It is therefore appropriate that the County General Plan address the changing needs for educational facilities generated by the growth in population envisioned by this plan.

Private schools also exist in the County which provide an alternative to public schools for those that can afford this option. Such institutions add vitality to the overall educational community.

Map of School Facilities

There are 18 school districts and one community college district in the County as indicated in Figure 7-9. Figure 7-9 also indicates sites for proposed new schools. Information was gathered from the individual school districts which are autonomous and prepare their own district facilities plans. The information is incomplete because not all districts have made long term plans for new schools but, instead, take part in planning for new developments when they occur. However, this General Plan is designed to accommodate, through the growth management and land use review process the new school sites as proposed by each district.

Currently, overcrowded attendance areas have been identified in many school districts in the County. For example, in the East County area of Oakley, where much of the unincorporated growth will occur, schools are presently severely overcrowded. Adoption of the General Plan will increase existing overcrowding in the schools substantially. In order to accommodate the projected

population growth in the Plan and achieve State-adopted standards in the provision of school facilities in all areas in the County, the following goals policies and implementation measures were developed.

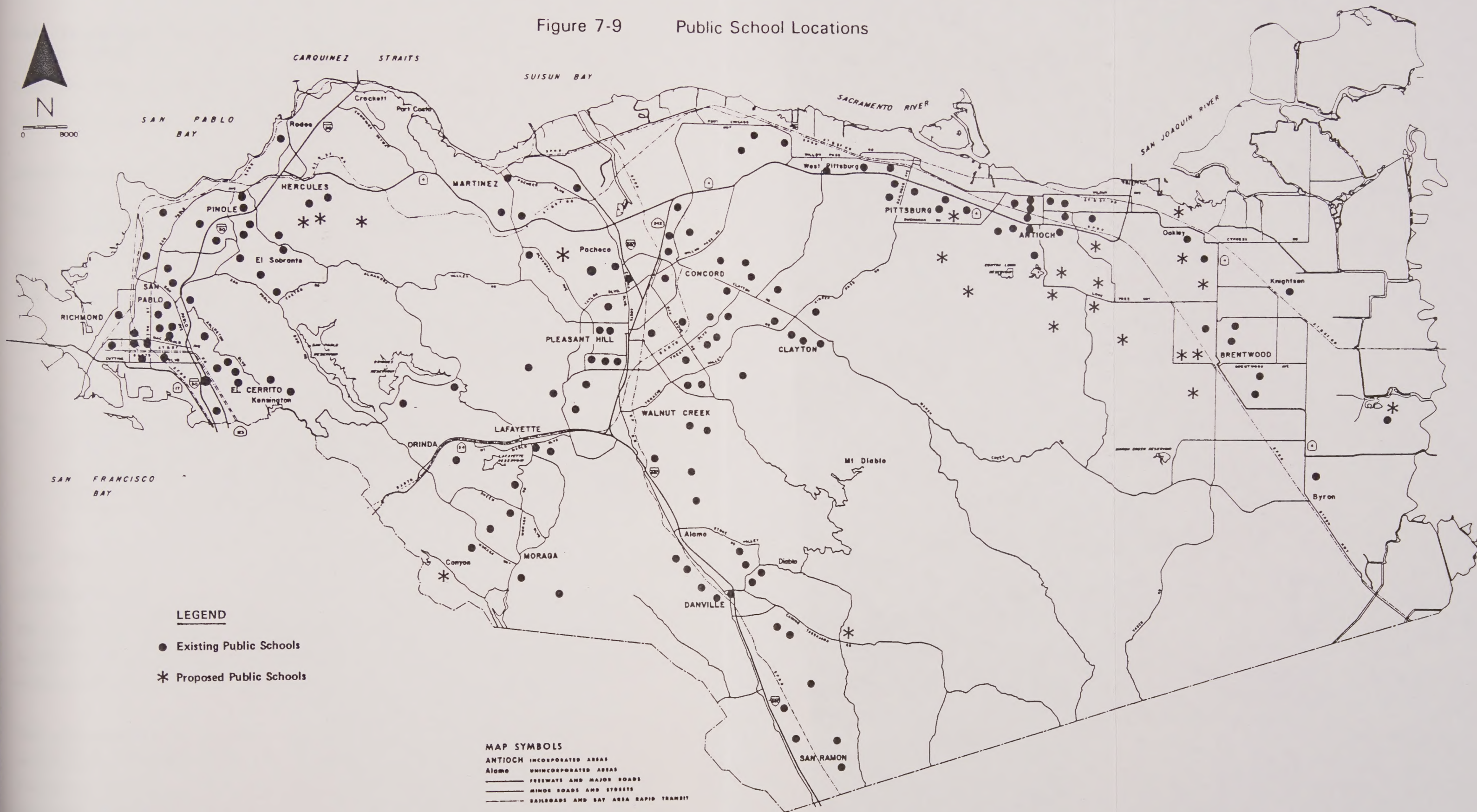
SCHOOLS GOALS

- 7-AO. To assure the provision of adequate primary, secondary, and college facilities in the County.
- 7-AP. To provide new schools in optimal locations to serve planned growth.
- 7-AQ. To encourage the efficient multi-purpose uses of school facilities.
- 7-AR. To assure that school facilities are adequate or committed to be adequate, prior to approvals of major applications for residential growth.

SCHOOLS POLICIES

- 7-140. The environmental review process shall be utilized to monitor the ability of area schools to serve development.
- 7-141. During the development review process, the State classroom size standards set by each district for primary and secondary schools shall be used as the basis for determining the adequacy of area schools.
- 7-142. When considering General Plan Amendment requests which increase density, the capacity of area schools and the district shall be given close attention.
- 7-143. The hearing body in reviewing residential projects shall consider the availability of educational facility capacity.
- 7-144. The development of quality schools shall be supported by coordinating development review with local school districts including such activities as designating school sites, obtaining dedications of school sites, and supporting local fees, special taxes, and bond issues intended for school construction.
- 7-145. Adequate provision of schools and other public facilities and services shall be assured by coordinating review of new development with the cities and other service providers through the Growth Management Program (see Chapter IV), the environmental review process, and other means.
- 7-146. School site donation by developers shall be encouraged through the use of density transfer or other appropriate land use alternatives.
- 7-147. The development of school facilities shall be provided in conjunction with and adjacent to local parks and trailways.

Figure 7-9 Public School Locations



CONTRA COSTA COUNTY
CALIFORNIA

- 7-148. The County shall support efforts to create a branch state college on the Ygnacio Valley site in Concord.
- 7-149. The County shall support efforts to build a new junior college in the San Ramon Valley.
- 7-150. The County shall support school facility fees for growth-impacted school districts.

SCHOOLS IMPLEMENTATION MEASURES

- 7-cm. In concert with the school districts, prepare an education facilities plan amendment to this General Plan which recommends locations for future school facilities.
- 7-cn. Lobby for State financing of new schools within the County.
- 7-co. To the extent allowable under State law, specify in the County's list(s) and criteria for development entitlement application's determination of completeness procedure, that a development entitlement application is not complete unless it contains satisfactory written evidence that any involved school district has been advised of and provided with the proposed application and requested to provide its recommendations thereon to the applicant and the County planning agency.
- 7-cp. The procedure provided in School Implementation Measure 7-cp. is to be applied in those school districts indicating to the County their current concern about education facilities and desire to participate in the development entitlement review process. Upon the receipt of any such indication, the involved and interested school district shall be appropriately designated in the planning agency's notification and contacts list for development entitlement applications pending in the district's area.

7.14 CHILDCARE

INTRODUCTION

The concept of childcare is based upon the premise that children need and have a right to a safe, healthy and caring environment. In response to the changing characteristics of the Country's workforce, the government has begun funding childcare programs.

The continued interest of both men and women in maintaining employment, the need for two-income households to meet the increasing cost of living--particularly for housing costs in the County--and the growing number of single-parent households, urgently require government assistance in providing for the needs of children through childcare programs and facilities. Such programs and facilities must be able to accommodate the variety of ages and interests of children throughout the County.

Currently in the County, an imbalance exists between the location of facilities and the areas of greatest need. Users of childcare services have expectations as to the quality of those services which may not be matched by individual childcare operator's performances. Additionally, the issue of affordability of services is important to a substantial portion of the County's population, because it can place limitations on the childcare services available to them. When these issues are coupled with the difficulty of locating childcare services within residential areas and with the anticipated growth and development of the County, the need for a childcare program becomes apparent.

In order to provide for adequate childcare for current and future residents of the County, the following goals and policies were developed.

CHILDCARE GOALS

- 7-AS. To assist and encourage the development of adequate, affordable and quality childcare in Contra Costa County.
- 7-AT. To maximize parental choice for childcare options in the community.

CHILDCARE POLICIES

- 7-151. The development of high quality childcare and preschool facilities shall be encouraged in appropriate locations, especially in conjunction with schools, church facilities and centers of concentrated employment such as business parks.
- 7-152. Childcare and preschool facilities shall be consistent with residential and commercial land use designations where safe vehicular access and effective buffering of neighboring residences can be achieved.
- 7-153. Proposed development projects shall be required to provide for childcare and preschool facilities in accordance with the General Plan and applicable ordinances, when significant demand for these facilities is created by the projects.
- 7-154. Proposed commercial and residential projects which do not directly provide childcare or preschool facilities shall be required to comply with the provisions of the adopted childcare ordinance.
- 7-155. In order to increase parental choice, the location of childcare facilities shall be encouraged in residential neighborhoods, employment centers, at school sites, hospitals, religious facilities, parks and along transit routes.

- 7-156. Temporary childcare facilities should be allowed as a management tool for the efficient and timely development of permanent facilities.
- 7-157. The County shall encourage and participate in efforts to coordinate childcare programs and fund raising efforts to meet childcare needs throughout the County, through the establishment of the county-wide childcare organization, as recommended by the Childcare Task Force.
- 7-158. The County shall foster public awareness of the variety of needs and availability of resources for childcare.
- 7-159. The County shall review and amend childcare regulations and the permitting process in order to simplify them, minimize fees and shorten the approval process.
- 7-160. The County shall encourage parents, providers, public officials and employers to participate in the planning and decision making processes related to providing childcare facilities.

CHILDCARE IMPLEMENTATION MEASURES

- 7-cq. Support programs which foster public awareness of the variety of needs and availability of resources for childcare.
- 7-cr. Review the County Zoning Ordinance and other ordinances to ensure that requirements for childcare and preschool facilities, churches, and other similar land uses are consistent with the policies above.

7.15 OTHER PUBLIC FACILITIES

INTRODUCTION

The provision of governmental services requires a broad range of governmental facilities, beyond those already discussed, to serve the needs of the County. Uses range from civic centers, governmental offices, post offices, libraries, hospitals, and detention facilities, to corporation yards and meeting halls.

Since it may be impractical to designate specific locations for such facilities in advance of land acquisition on the Land Use Element Plan map, it is necessary to allow such uses throughout the County without regard to underlying General Plan designation. Later plan amendments will re-designate these sites to the Public/Semi-Public category. They can also be constructed without regard to the underlying zoning.

Some facilities (generally not those in the Growth Management Element) are provided in response to perceived needs and don't have specific standards associated with them. For libraries, however, standards are known and specified in the policies section below. Public buildings will be provided in accordance with the growth management policies of this Plan.

Map of Public Buildings

Figure 7-10 shows existing public buildings in the unincorporated areas of the County.

In order to provide public buildings for the future needs of the projected population in accordance with the General Plan, the following goals and policies were developed.

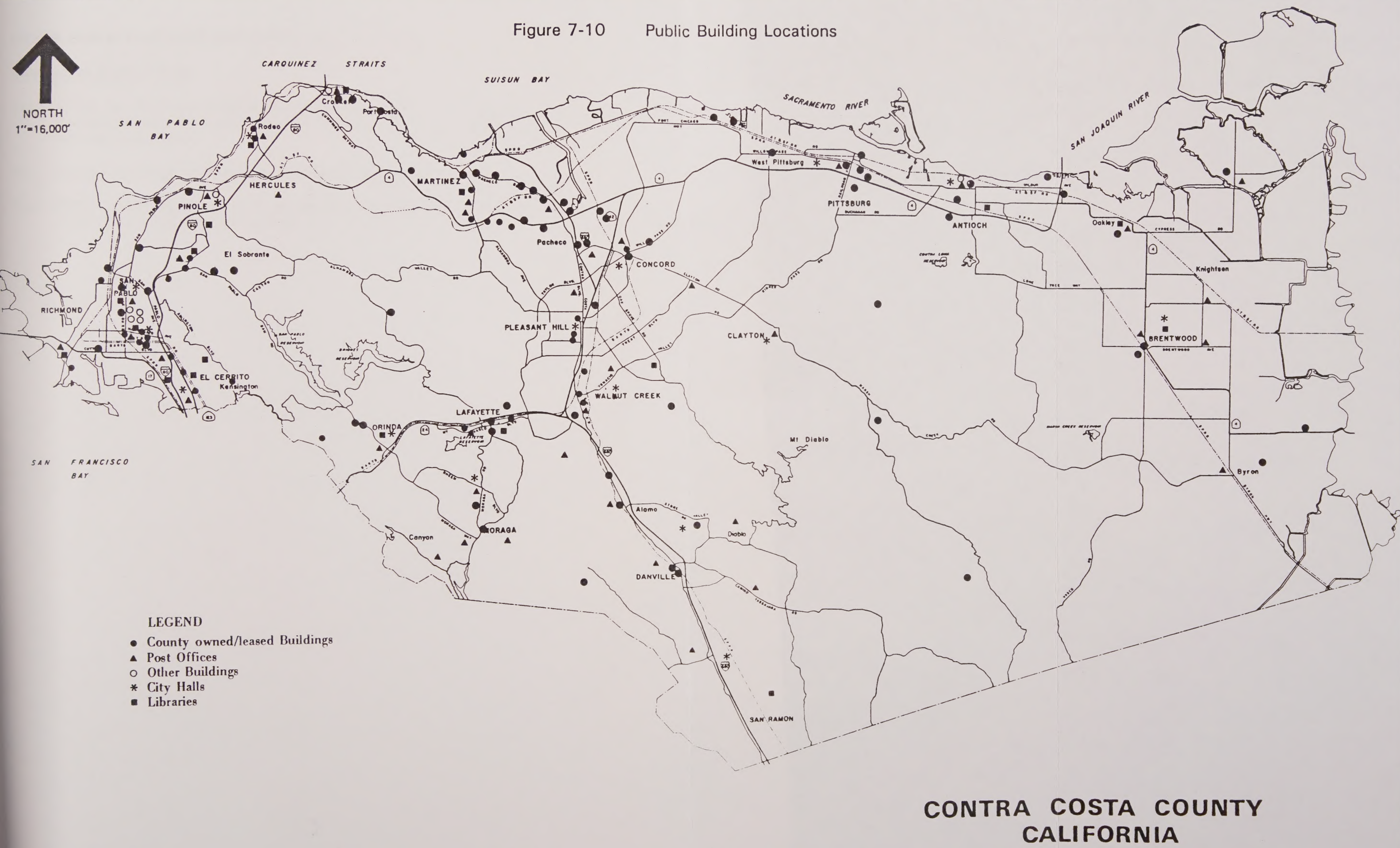
OTHER PUBLIC FACILITIES GOALS

- 7-AU. To assure that high quality civic, medical, and other community facilities are provided to meet the broad range of needs within unincorporated areas of the County.

OTHER PUBLIC FACILITIES POLICIES

- 7-161. The needs of existing and future residents of the County for public assembly and meeting space shall be evaluated. The availability of adequate public space shall be assured through coordinated actions of existing service providers.
- 7-162. When developing new general purpose public facilities, a balance between social, cultural, and recreational needs of the community being served shall be sought.
- 7-163. Services provide by the County Library System shall be maintained and improved by providing adequate funding for ongoing operations, and by providing new library facilities to meet the needs of County residents, particularly in growing areas where library service standards are not being met.
- 7-164. Sites of public institutions shall be developed in a manner which buffers the public use impacts from the adjacent lands uses to the extent feasible.
- 7-165. The development of facilities and services to serve the needs of the elderly within the community shall be encouraged.
- 7-166. Churches and other religious institutions shall be considered consistent with residential and commercial land use designations where safe vehicular access and effective buffering of neighboring residences can be achieved.

Figure 7-10 Public Building Locations



OTHER PUBLIC FACILITIES IMPLEMENTATION MEASURES

Development Review Process

- 7-cs. Utilize the Mandatory Referral process (Section 65402 of the Government Code) to determine if public land acquisitions, sale or building of new structures, are in conformity with the General Plan.
- 7-ct. Pursue a full range of fiscal methods to finance needed public facilities.
- 7-cu. Where appropriate, encourage the establishment of specialized on-site libraries in business parks and other types of development.

8. CONSERVATION ELEMENT

TABLE OF CONTENTS

	<u>Page</u>
8.1 INTRODUCTION	8-1
Legal Authority	8-1
8.2 RELATIONSHIP TO OTHER GENERAL PLAN ELEMENTS	8-2
Existing Documents	8-2
8.3 RELATIONSHIP TO OTHER GENERAL PLAN DOCUMENTS	8-2
8.4 CONSERVATION ELEMENT ORGANIZATION	8-3
8.5 OVERALL GOALS AND POLICIES REGARDING RESOURCE CONSERVATION	8-3
Goals	8-3
Policies	8-4
8.6 VEGETATION AND WILDLIFE	8-4
Introduction	8-4
Maps and Inventory of Significant Ecological Resource Areas	8-5
Goals	8-26
Policies	8-26
Implementation Measures	8-30
8.7 AGRICULTURAL RESOURCES	8-33
Introduction	8-33
Maps and Inventory of Resource Areas	8-41
Goals	8-41
Policies	8-41
Implementation Measures	8-43
8.8 RENEWABLE ENERGY RESOURCES	8-50
Introduction	8-50
Goals	8-51
Map of Resource Areas	8-51
Policies	8-51
Implementation Measures	8-53
8.9 MINERAL RESOURCES	8-53
Introduction	8-53
Map of Resource Areas	8-54
Goals	8-57
Policies	8-57
Implementation Measures	8-58

TABLE OF CONTENTS (Continued)

	<u>Page</u>
8.10 SOIL RESOURCES	8-59
Introduction	8-59
Agricultural Soils	8-60
Goals	8-64
Policies	8-64
Implementation Measures	8-64
8.11 OIL AND GAS RESOURCES	8-65
Introduction	8-65
Goals	8-66
Policies	8-66
Implementation Measures	8-66
8.12 WATER RESOURCES	8-67
Introduction	8-67
Goals	8-71
Policies	8-72
Implementation Measures	8-74
8.13 HARBORS	8-76
Introduction	8-76
Goals	8-77
Policies	8-77
Implementation Measures	8-77
8.14 AIR RESOURCES	8-77
Introduction	8-77
Maps and Analysis	8-79
Goals	8-85
Policies	8-85
Implementation Measures	8-86

8. CONSERVATION ELEMENT

8.1 INTRODUCTION

Contra Costa County encompasses a large geographic area and harbors an abundance of vegetative, water, air, biotic, and agricultural resources. The natural environment of the County also includes mineral, oil, gas, and wind energy resources. Many of the issues surrounding these resources are complexly interrelated. Water and air quality, for example, are essential both to the health of people and wildlife habitats. Several of the County's natural resources also provide substantial economic return for its incorporated and unincorporated areas.

This element of the Contra Costa County General Plan is concerned with issues regarding the identification, preservation and management of natural resources in the unincorporated County. Important uses of these resources are summarized, and an evaluation of the issues surrounding the protection of the resource is discussed. Finally, goals and policies developed for resource protection are presented.

A key component of Measure C - 1990 is the preservation of at least 65 percent of the land in the County for agriculture, open space, wetlands, parks and other non-urban uses. The 65/35 Land Preservation Standard, the urban limit line concepts and the preservation of agricultural resources policies of Measure C - 1990 work together with other goals, policies, and implementation measures in this conservation element.

LEGAL AUTHORITY

The chapter covers the issues required to be addressed under California's State General Plan laws. Section 65302 (d) of the California Government Code requires the County to adopt a Conservation Element as part of the General Plan, for the purposes of conservation, development, and utilization

of natural resources including waters, harbors, fisheries, wildlife, minerals and other natural resources. State General Plan Guidelines prepared by the Governor's Office of Planning & Research advise that the Conservation Element should promote "the protection, maintenance, and use of natural resources, prevent the wasteful exploitation, destruction and neglect of natural resources, and recognize that natural resources must be maintained for their ecological value as well as for their direct benefits to people." Many of the issues covered in the Conservation Element directly overlap those required in the Open Space, Public Facilities, Land Use, and Safety Elements. All sections are cross-referenced as applicable.

As in the case of all other elements of the General Plan, the Conservation Element has equal legal status with all other sections of the plan.

8.2 RELATIONSHIP TO OTHER GENERAL PLAN ELEMENTS

EXISTING DOCUMENTS

Other Chapters of the Updated General Plan

The Conservation Element of the General Plan provides policies to protect natural resources and their uses. While this chapter discusses various uses and preservation of natural resources, it does not designate land uses (see the Land Use Element 3.0 for land use designations). While this chapter discusses water quality and quantity, it does not discuss water supply (refer to the chapter on Water Supply in 7.0). Furthermore, scenic resources, recreational lands, historic and cultural resources are addressed under the Open Space Element of the General Plan.

8.3 RELATIONSHIP TO OTHER GENERAL PLAN DOCUMENTS

The goals, policies and implementation measures contained in this element are intended to guide planning for public and private projects that are subject either to approval of the County planning agency, or to review by County staff, although they may be under the jurisdiction of other public agencies operating in the County. Such goals, policies and implementation measure are intended to accord and have equal legal status with the other elements of the General Plan.

8.4 CONSERVATION ELEMENT ORGANIZATION

This chapter of the General Plan is divided into eight sections that present background information, policies, maps, and implementation measures regarding:

- o vegetation and wildlife, including important trees, natural vegetation, wildlife habitat, significant ecological resources;
- o agricultural resources;
- o renewable energy resources including commercial wind farms, energy recovery and solar projects;
- o mineral resource areas;
- o soil resource areas, including agricultural soils;
- o oil and gas resources;
- o water resources, including urban and rural creeks;
- o harbors;
- o air resources.

8.5 OVERALL GOALS AND POLICIES REGARDING RESOURCE CONSERVATION

The following goals and policies are overall statements regarding the need to preserve and efficiently manage open space and other resources in the County. More detailed policies particular to each type of resource are then discussed under separate topic sections in the remainder of the element.

OVERALL CONSERVATION GOALS

- 8-A. To preserve and protect the ecological resources of the County.
- 8-B. To conserve the natural resources of the County through control of the direction, extent and timing of urban growth.
- 8-C. To achieve a balance of uses of the County's natural and developed resources to meet the social and economic needs of the County's residents.

OVERALL CONSERVATION POLICIES

- 8-1. Resource utilization and development shall be planned within a framework of maintaining a healthy and attractive environment.
- 8-2. Areas that are highly suited to prime agricultural production shall be protected and preserved for agriculture and standards for protecting the viability of agricultural land shall be established.
- 8-3. Watersheds, natural waterways, and areas important for the maintenance of natural vegetation and wildlife populations shall be preserved and enhanced.
- 8-4. Areas designated for open space/agricultural uses shall not be considered as a reserve for urban uses and the 65 percent standard for non-urban uses must not be violated.
- 8-5. In order to reduce adverse impacts on agricultural and environmental values, and to reduce urban costs to taxpayers, scattered urban development in outlying areas shall be precluded outside the ULL.

8.6 VEGETATION AND WILDLIFE

INTRODUCTION

The County has a diverse range of habitats and unique species. Much of the County's natural environment remains while substantial areas have already received permanent public protection. There are additional resources which warrant similar public control. The vast majority of privately held lands supporting vegetation and wildlife resources are found within the agricultural areas of the County. Agriculturalists and biological habitats have co-existed for decades in Contra Costa County; thus privately preserving resources with public benefit.

The topographic variety of the County, from the summit of Mount Diablo to the San Francisco Bay/Delta estuary complex, combines to form the setting for its range of habitat and wildlife.

In addition to the naturally occurring habitats in the County, suburban communities attract their own assemblage of wildlife. In these areas, the lush shrub and tree plantings of backyard gardens function as a partial substitute for natural scrub and woodland habitats. For example, black-tailed deer occur in gardens and yards during late summer and early fall months.

There are unique biotic resources found within Contra Costa County which have biological and wildlife importance. While most of the significant habitat areas are found in unincorporated

locations, several important wildlife areas are within city limits. Wetlands are one of the most important habitat resources within the County. Wetlands, especially marshes scattered along the County's shoreline, have been awarded substantial legal and policy protection. For purposes of this plan, wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is covered by shallow water. For purposes of this classification, wetlands must have one or more of the following attributes: (1) at least periodically, the land supports predominantly hydrophytes; (2) the substrate is predominantly undrained hydric soil; and (3) the substrate is non-soil and is saturated with water or covered by shallow water at some time during the growing season of each year.

MAPS AND INVENTORY OF SIGNIFICANT ECOLOGICAL RESOURCE AREAS

The most significant ecological resource areas in Contra Costa County are defined by three separate categories: (1) areas containing rare, threatened and endangered species; (2) unique natural areas; and (3) wetlands and marshes.

These three categories overlap somewhat, since some of the most significant and unique biological resource areas in Contra Costa County also include habitats for rare, threatened and endangered animal or plant species. The most important unique natural areas in the County - habitats of rare, threatened and endangered species, and wetland areas - are inventoried and briefly described in Table 8-1. The generalized locations of each area are shown on Figure 8-1. The Community Development Department maintains more detailed maps of these areas in their offices.

The animal and plant species that have been designated as "rare," "endangered," or "threatened" by either the State of California or the federal government, and which are known to occur in Contra Costa County are listed in Table 8-2. Information regarding the known and inferred habitats of some of these rare, threatened and endangered species is included in Figure 8-1.

An "endangered species" is one which is in danger of extinction throughout all or a significant portion of its range. A "threatened species" is one which is likely to become an endangered species within the foreseeable future. In 1986 California dropped the "rare" designation in favor of the term "threatened" when referring to animal species. However, the State has retained the term "rare" to define plant species which may soon become threatened if their habitat situation worsens.

TABLE 8-1
INVENTORY OF SIGNIFICANT ECOLOGICAL RESOURCE AREAS
OF CONTRA COSTA COUNTY

1. Point Pinole

Tidal and freshwater marshes, mudflat, grassland, eucalyptus plantation, and fishing pier which extends 1/4 mile into San Pablo Bay. Valuable for migrating waterfowl and shorebirds. Habitat for soft-haired bird's beak, California clapper rail and salt marsh harvest mouse, possibly for black rail, Samuel's song sparrow and black-shouldered kite. Plantation serves as resting place for migrating monarch butterflies.

2. San Pablo Creek and Wildcat Creek Marshes

Tidal marsh and mudflat. Potential for same species as described for Point Pinole.

3. Brooks Island

Tidal marsh, scrub/brushland and coastal prairie grassland. Important stop for migrating waterfowl including Canada goose. Supports a population of California vole with an uncommon pelage (hair) color variation.

4. Hoffman Marsh

Tidal marsh habitat for migrating waterfowl and shorebirds, possibly for California clapper rail and salt marsh harvest mouse.

5. San Pablo Ridge

The grassland areas on clay and clay loam soils on San Pablo Ridge support a population of Santa Cruz Tarweed which was transplanted from a hillside in Pinole.

6. Wildcat Creek Canyon

Grassy hillsides with riparian woodland along Wildcat Creek. Habitat for ornate shrew, western pond turtle, northern brown skink and possibly for Alameda whipsnake.

7. Lone Tree Point

Stratified cliff face demonstrates the underlying trend of coastal uplift. Fossiliferous strata contain many marine-life fossils such as clams and oysters.

8. Sobrante Ridge Manzanita Grove

A unique "island" stand of chaparral that supports two and possibly three species of manzanita, including the Alameda manzanita.

TABLE 8-1 (Continued)

9. Siesta Valley

Broadleaf evergreen forest, riparian woodland, grassland and scrub/brushland. Habitat for Alameda whipsnake, Berkeley kangaroo rat, northern brown skink, grasshopper sparrow and ornate shrew. Readily observed geologic features include a faulted syncline with Siesta Formation outcropping in the fold and Moraga basalt forming the upper slopes of the valley. Some fossils of shells and land mammals.

10. Huckleberry Botanic Regional Preserve

Chaparral and broadleaf evergreen forest in this 130 acre preserve supports Alameda manzanita, western leatherwood and diverse avifauna.

11. Redwood Regional Park

Fine example of coast redwood forest. Redwoods were extensively logged in the late 1800's; all existing trees are second-growth.

12. Flicker Ridge

Concentration of many habitats: grassland, native grassland, scrub/brushland, chaparral, open oak woodland, broadleaf evergreen forest, knobcone pine forest and agriculture. Includes patches of unique pygmy redwoods, stunted due largely to exposure and soil conditions.

13. Briones Hills

Grasslands, oak woodland, riparian, and creeks support Mount Diablo fairy lantern, newts, western pond turtle, northern brown skink, ornate shrew, prairie falcon, mountain lion and possibly Alameda whipsnake, grasshopper sparrow, golden eagle, badger, ringtail and bobcat. Mount Diablo fairy lantern and Diablo helianthella are known and suspected to occur here, respectively.

14. Shoreline Between Martinez Waterfront and Concord Naval Weapons Station

Tidal marsh supports salt marsh harvest mouse, California clapper rail and possibly black rail. Ornate shrew, black-shouldered kite and Suisun song sparrow also occur here.

15. Lime Ridge

Supports Mt. Diablo manzanita, and a buckwheat subspecies which is endemic to Lime Ridge.

16. Shell Ridge

Open oak woodland and grasslands. Upturned geologic strata contain many marine fossils.

TABLE 8-1 (Continued)

17. Las Trampas and Rocky Ridges

Large area of rugged terrain, high ridges and steep slopes. Grassland, scrub/brushland, chaparral, rock outcrops, open oak woodland, broadleaf evergreen forest, and riparian woodland. Habitat for Alameda whipsnake, black-chinned sparrow, prairie falcon, golden eagle, ringtail, badger, bobcat and mountain lion.

18. Blackhawk Ranch Fossil Locality

Upturned fossiliferous Pliocene strata indicates past climate, flora and fauna. Diverse fossils include those of streamside trees, marine invertebrates, lizards, cranes, small mammals, carnivores, peccaries, camels, horses and mastodons. Site was the edge of a salt water basin that extended inland to the Sierra Nevada.

19. Mt. Diablo

Native grassland, serpentine chaparral, large rock outcrops, riparian woodland, dwarfed woodland, Coulter pine forest, knobcone pine forest, and springs. Many rare, endangered, depleted or otherwise unusual plants and animals, including an isolated population of northern sagebrush lizard, inhabit the mountain.

20. Nortonville - Somersville

Northernmost limit of Coulter pine and black sage, southernmost limit of common manzanita. Mount Diablo manzanita, Diablo rock rose and Brewer's dwarf flax. Grassland, chaparral, open oak woodland and Coulter pine forest. Area has been heavily mined for coal.

21. West Pittsburg Salt Marsh

This marsh area is a habitat for salt marsh harvest mouse and the California black rail.

22. Entrapment Zone

The entrapment zone is an area where suspended materials concentrate as a result of mixing by the outgoing freshwater flow above the saltwater wedge. Plankton concentrations are influenced by the location of the entrapment zone, and this in turn affects the location and productivity of fish in the bays and Delta. The location of the entrapment zone between the lower Delta and Suisun Bay varies according to the strength and phase of the tides, and the level of freshwater inflow from the Sacramento and San Joaquin Rivers.

23. Browns Island and Winter Island

Freshwater and estuarine marshes. Habitat for Contra Costa wallflower, Mason's lilaeopsis, Suisun song sparrow, black-shouldered kite and possibly river otter. Black rail might also occur here.

TABLE 8-1 (Continued)

24. Mouth of Contra Costa Canal

Salt water marsh provides habitat for black-shouldered kite.

25. Antioch Sand Dunes

Small and only remaining remnants of riverine dunes, once part of the largest river-laid dunes in the state that stretched ten miles along the southern shore of the San Joaquin River. The remaining dunes support rare and/or endangered plants, at least six endangered and/or endemic insects and the California legless lizard.

26. Los Vaqueros

This area contains fair densities of native bunchgrasses.

27. Big Break

This is an emergent marsh supporting the California black rail.

28. Marsh Creek Riparian Corridor and Marsh Creek Reservoir

These areas provide habitat for a variety of sensitive plant and animal species including: large-flowered fiddleneck, Hoover cryptantha, Mt. Diablo buckwheat, diamond-petaled California poppy, stink bells, Diablo rock-rose, caper-fruited tropidocarpum, San Joaquin kit fox, California tiger salamander, California red-legged frog and molestan blister beetle.

29. Alkali Meadows and Northern Claypan Vernal Pools

Rare habitats in Contra Costa County and statewide. A specialized flora and invertebrate fauna are adapted to each habitat.

30. Los Vaqueros

Area of biological importance because of the presence of historical eagle nests and other outstanding natural features. This area provides habitat for the following species: San Joaquin kit fox, Alameda whipsnake, tricolored blackbird, California red-legged frog, California tiger salamander, western pond turtle, freshwater shrimp. Also contains Alkali Meadows and Northern Claypan Vernal Pools, both of which are considered to be rare statewide.

31. Bethel Island Wetlands

The Bethel Island planning area supports approximately 741.5 acres of seasonal and permanent wetlands. Another approximately 940 acres of ruderal wetland/upland are found on the planning area. These have high values as biological habitat and are considered critical natural resources by the U.S. Army Corps of Engineers and other resource agencies.

TABLE 8-1 (Continued)

32. Little Franks Tract

This freshwater marsh habitat contains riparian shrub-brush along the levees which supports black-crowned night heron.

33. Franks Tract

A flooded, formerly levee-encircled delta island. Freshwater marsh and riparian woodland habitats on borders, delta aquatic habitat with good spawning area for fish (striped bass, largemouth bass, white catfish, others). Possible habitat for giant garter snake.

34. Sand Mound Slough

This area is an example of habitat found on the tule islands in the central and southern Delta. This area contains tules, bulrushes, common reed, rushes and other marsh vegetation as well as riparian vegetation which provides a valuable habitat for wintering ducks and other waterfowl.

35. Connection Slough, Quimby Island, Rhode Island, Old River Complex

A diverse mix of upland habitat, agricultural lands, riparian trees and shrub-brush, marsh and tule islands. Excellent wildlife habitat, particularly for raptors, songbirds, and game species. These areas support the rare California hibiscus.

36. South Bank of Rock Slough

This area supports a small population of the Suisun marsh aster and California hibiscus.

37. Indian Slough

California hibiscus is found at the confluence of Indian Slough.

38. Byron Hot Springs

Alkali mud flats, salt marsh and hot mineral springs. A rare snail (*Helminthoglypta* spp.) inhabits the area, the site of an old resort-spa now in disrepair. A recently created shallow lake has enhanced the habitat for wildlife. The grassland hills to the west support San Joaquin kit fox.

39. Eucalyptus Island

A freshwater marsh subject to tidal fluctuation. This area supports a variety of wildlife and is the habitat of the California hibiscus.

TABLE 8-1 (Continued)

40. Mouth of Pinole Creek

This coastal salt marsh area supports California black rail.

41. Delta Islands and Peninsula

Additional delta islands in Contra Costa include Jersey Island, Bradford Island and Webb Tract. Veale Tract, which is a peninsula off the mainland, has similar habitat. The undeveloped shoreline and interior sections of these islands and peninsula have the potential for supporting the same species as described for Browns and Bethel Islands and the Frank Tracts.

TABLE 8-2
PROTECTED AND UNCOMMON PLANT AND WILDLIFE SPECIES
OF CONTRA COSTA COUNTY¹

<u>Taxa</u>	<u>Status¹</u>	<u>Reported Locations</u>
PLANTS		
Large-flowered Fiddleneck <i>Amsinckia grandiflora</i>	CE/FE/1B	Woodland and grasslands.
Coast Rock Cress <i>Arabis blepharophylla</i>	-/C3c/4	West County: Red Rock.
Mt. Diablo Manzanita <i>Arctostaphylos auriculata</i>	-/C3c/1B	North Central County: Clayton and Antioch South quadrangles; San Ramon Valley: Diablo and Tassajara quadrangles.
Alameda Manzanita <i>Arctostaphylos pallida</i>	CE/C2/1B	West County: Richmond, Oakland East quadrangles; Sobrante Ridge, Tilden Regional Park, Huckleberry Botanic Regional Park.
Contra Costa Manzanita <i>Arctostaphylos pungens</i> <i>ssp. laevigata</i>	-/-/3	Chaparral.
Suisun Marsh Aster <i>Aster chilensis</i> var. <i>lentus</i>	-/C2/1B	East County: marshes bordering Honker Bay.
Heart-leaved saltbush <i>Atriplex cordulata</i>	-/-/3	Alkaline scrub.
Mt. Diablo Fairy Lantern <i>Calochortus pulchellus</i>	-/-/4	San Ramon Valley, Tassajara quadrangle; Morgan territory, Briones Regional Park.
Oakland Star Tulip <i>Calochortus umbellatus</i>	-/-/4	Chaparral, often serpentine.
Chaparrel Harebell <i>Campanula exigua</i>	-/-/4	Chaparral.
Serpentine Collomia <i>Collomia diversifolia</i>	-/-/4	Serpentine chaparral.

TABLE 8-2 (Continued)

<u>Taxa</u>	<u>Status¹</u>	<u>Reported Locations</u>
Soft Haired Bird's Beak <i>Cordylanthus mollis mollis</i>	CR/C1/1B	North Central County: Western edge of Hastings Slough near mouth, Honker Bay shoreline; Point Pinole.
Birds-on-nest <i>Cordylanthus nidularius</i>	CR/C2/1B	North Central County: Deer Flat, Mt. Diablo.
Hoover's Cryptantha <i>Cryptantha hooveri</i>	-/-/4	Grassland.
Hospital Canyon Larkspur <i>Delphinium californicum</i> ssp. <i>interius</i>	-/C2/3	Woodland.
Recurved Larkspur <i>Delphinium recurvatum</i>	-/-/1B	Alkaline grasslands.
Western Leatherwood <i>Dirca occidentalis</i>	-/C3c/4	West County: East Bay Hills, Briones Valley.
Mt. Diablo Buckwheat <i>Eriogonum truncatum</i>	-/C2/1A	North-Central County: lower east slopes of Mt. Diablo and south quadrangle.
Jepson's Woolly Sunflower <i>Eriophyllum jepsonii</i>	-/-/4	Northern coastal scrub.
Contra Costa Wallflower <i>Erysimum capitatum</i> var. <i>angustatum</i>	CE/FE/1B	North-East County: Brown's Island and Antioch Dunes. County includes designated critical habitat for this species.
Diamond-petaled Poppy <i>Eschscholzia rhombipetala</i>	-/C2/1B	Valley grasslands.
Stinkbells <i>Fritillaria agrestis</i>	-/C2/4	Woodland and grasslands.
Fragrant White Fritillary <i>Fritillaria liliacea</i>	-/C2/1B	Clayton quadrangle, Mount Diablo foothills.
Great Valley Gumplant <i>Grindelia camporum</i> var. <i>parviflora</i>	-/-/4	Grasslands.

TABLE 8-2 (Continued)

<u>Taxa</u>	<u>Status¹</u>	<u>Reported Locations</u>
Marsh Gumplant <i>Grindelia humilis</i>	-/-/4	Salt marsh.
Diablo Rock Rose <i>Helianthella castanea</i>	-/C2/1B	North Central County: Clayton, Antioch South, Diablo quadrangles; San Ramon Valley: Tassajara quadrangle.
Brewer's Dwarf Flax <i>Hesperolinon breweri</i>	-/C2/1B	North Central County: Clayton, Antioch South, Diablo quadrangles; San Ramon Valley: Tassajara quadrangles.
California Hibiscus <i>Hibiscus californicus</i>	-/C2/1B	East County: Clifton Court Forebay shore.
Santa Cruz Tarplant <i>Holocarpha macradenia</i>	CE/C1/1B	West County: Richmond quadrangle. Wildcat Canyon Regional Park contains a relocated population.
Northern California Black Walnut <i>Juglans hindsii</i>	-/C2/1B	West County: Richmond quadrangle; North-Central County: Clayton, Antioch South, and Las Trampas Ridge quadrangles.
Contra Costa Goldfields <i>Lasthenia conjugens</i>	-/C2/1B	Byron Hot Springs quadrangle.
Delta Tule Pea <i>Lathyrus jepsonii</i> ssp. <i>jepsonii</i>	-/C2/1B	North-Central County: Shores of Honker Bay and Antioch.
Mason's Lilaeopsis <i>Lilaeopsis masonii</i>	CR/C2/1B	North Central County: shoreline areas in Port Chicago, Point Edith Wildlife Area, Honker Bay, and Antioch, Brown's Island.
Showy Madia <i>Madia radiata</i>	-/-/3	Woodland and grasslands.
Hall's Bush Mallow <i>Malacothamnus hallii</i>	-/-/4	Chaparral.

TABLE 8-2 (Continued)

<u>Taxa</u>	<u>Status¹</u>	<u>Reported Locations</u>
Antioch Dunes Evening Primrose <i>Oenothera delotides</i> var. <i>howellii</i>	CE/FE/1B	North-East County: Honker Bay shoreline, Antioch Dunes, Brentwood quadrangle. County includes designated critical habitat for this species.
Mt. Diablo Phacelia <i>Phacelia phacelioides</i>	-/C2/1B	Clayton and Diablo quadrangles.
Valley Oak <i>Quercus lobata</i>	-/-/4	Throughout County especially in foothill woodland.
Lobb's Aquatic Buttercup <i>Ranunculus lobii</i>	-/-/4	Wet locations in woodland and grasslands.
Straggly Gooseberry <i>Ribes divaricatum</i> var. <i>publiflorum</i>	-/-/4	Broadleaf evergreen forest.
Rock Sanicle <i>Sanicula saxatilis</i>	CR/C2/1B	North-Central County: Clayton quadrangle.
Mt. Diablo Jewel Flower <i>Streptanthus hispidus</i>	-/C2/1B	North-Central County: Clayton, Diablo quadrangles.
Metcalf Canyon Jewel Flower <i>Streptanthus albidus</i> spp. <i>albidus</i>	-/C2/1B	Serpentine grasslands.
Uncommon Jewel Flower <i>Streptanthus albidus</i> spp. <i>peramoenus</i>	-/-/1B	Serpentine chaparral.
Mount Diablo Cottonweed <i>Stylocline amphibola</i>	-/-/4	Broadleaf evergreen forest.
California Suaeda <i>Suaeda californica</i>	-/-/3	Coastal salt marsh.
Caper-fruited Tropicocarpum <i>Tropicocarpum capparideum</i>	-/C2/1A	North-Central County: Clayton quadrangles; East County: Byron Hot Springs, Clifton Court Forebay quadrangles.

TABLE 8-2 (Continued)

<u>Taxa</u>	<u>Status¹</u>	<u>Reported Locations</u>
MAMMALS		
Tule Elk <i>Cervus elaphus nannodes</i>	-/-/-	Concord Naval Weapons Station.
Berkeley Kangaroo Rat <i>Dipodomys heermanni berkeleyensis</i>	-/-/-	Historic records from Briones Valley, Mount Diablo, Siesta Valley.
San Pablo Vole <i>Microtus californicus sanpabloensis</i>	-/C2/-	Salt marshes; Point Pinole, mouth of San Pablo and Wildcat Creeks.
San Joaquin Pocket Mouse <i>Perognathus inornatus inornatus</i>	-/C2/-	Historical observations from Antioch South, Clayton quadrangles.
Salt Marsh Harvest Mouse <i>Reithrodontomys raviventris</i>	CE/FE/CFP	Tidal and nontidal marshes of Suisun and San Pablo Bays in the west and north-central County areas.
San Joaquin Kit Fox <i>Vulpes macrotis mutica</i>	CT/FE/-	Brentwood-Byron ranchland, lower eastern and southern Mt. Diablo slopes, northern Dougherty Road area.
BIRDS		
Tricolored Blackbird <i>Agelaius tricolor</i>	-/C2/-	Freshwater marshes of the Central Valley; Los Vaqueros.
Golden Eagle <i>Aquila chrysaetos</i>	- / - / S S C , CFP	Open grasslands of east County; Briones Hills, Las Trampas and Rocky Ridge.
Short-eared Owl <i>Asio flammeus</i>	-/-/SSC	Wildcat Creek marsh.
Burrowing Owl <i>Athene cunicularia</i>	-/-/SSC	Grasslands; west of Clifton Court Forebay.

TABLE 8-2 (Continued)

<u>Taxa</u>	<u>Status¹</u>	<u>Reported Locations</u>
Aleutian Canada Goose <i>Branta canadensis leucopareia</i>	-/FE/-	Upland grassland sites northwest of the San Pablo Reservoir dam, west County segment (winter months). Proposed for reclassification as threatened under federal law.
Swainson's Hawk <i>Buteo swainsoni</i>	CT/C2/-	East County areas where large groves of oak or riparian woodland occur adjacent to grassland or agricultural fields.
Northern Harrier <i>Circus cyaneus</i>	-/-/SSC	Marshes; Wildcat Creek.
Black-shouldered Kite <i>Elanus caeruleus</i>	-/-/CFP	Antioch North quadrangle; Wildcat Creek marsh.
Prairie Falcon <i>Falco mexicanus</i>	-/-/CSC	Briones Hills, Las Trampas and Rocky Ridge.
American Peregrine Falcon <i>Falco peregrinus anatum</i>	CE/FE/CFP	Occasional forager in uplands, rugged portions of the County.
Greater Sandhill Crane <i>Grus canadensis tabida</i>	CT/-/CFP	Grain fields adjacent to Delta water courses in eastern east County (winter period).
California Black Rail <i>Laterallus jamaicensis coturniculus</i>	CT/C2/CFP	Salt marsh communities in the north-central County.
Suisun Song Sparrow <i>Melospiza melodia maxillaris</i>	CCE/-/-	Brushy segments of inland salt marsh; segments in coastal north-central area.
Samuel's Song Sparrow <i>Melospiza melodia samuelis</i>	-/-/-	Possibly at Point Pinole marshes.
Black-crowned Night Heron <i>Nycticorax nycticorax</i>	-/-/-	Marshes; Little Franks Tract. Rookery sites should be protected.
California Brown Pelican <i>Pelecanus occidentalis californicus</i>	CE/FE/CFP	Inshore waters of west County area.

TABLE 8-2 (Continued)

<u>Taxa</u>	<u>Status¹</u>	<u>Reported Locations</u>
Double-crested Cormorant <i>Phalacrocorax auritus</i>	-/-/SSC	Nesting colonies underneath Richmond-San Rafael bridge.
California Clapper Rail <i>Rallus longirostris obsoletus</i>	CE/FE/CFP	Tall, dense pickleweed salt marsh in the west and north-central County areas.
California Least Tern <i>Sterna antillarum browni</i>	CE/FE/CFP	Feeds and rests along quiet inshore bay waters in the west County area.
American Badger <i>Taxidea taxus</i>	-/-/SSC	Briones Hills, Las Trampas and Rocky Ridge.
REPTILES		
Alameda Whipsnake <i>Masticophis lateralis euryxanthus</i>	CT/C2/	Chaparral and coastal scrub areas near water sources.
AMPHIBIANS		
California Tiger Salamander <i>Ambystoma tigrinum californiense</i>	-/C2/SSC	Freshwater pond sites and surrounding plant communities in the East County area; Marsh Creek, Los Vaqueros.
Red-legged Frog <i>Rana aurora draytoni</i>	-/C2/SSC	Freshwater ponds.
Northern Sagebrush Lizard <i>Sceloporus graciosus graciosus</i>	-/-/-	Isolated population on Mount Diablo.
FISH		
Delta Smelt <i>Hypomesus transpacificus</i>	CCE/C1/-	Migrates through San Pablo and Suisun Bays during spawning runs.

TABLE 8-2 (Continued)

<u>Taxa</u>	<u>Status</u> ¹	<u>Reported Locations</u>
Winter-run Chinook Salmon <i>Oncorhynchus tshawytscha</i>	E/PT/-	Migrates through San Pablo and Suisun Bays during spawning runs. Under federal law, emergency listing as threatened until November 28, 1990.
Sacramento Splittail <i>Pogonichthys macrolepidotus</i>	-/C2/-	Migrates through San Pablo and Suisun Bays during spawning runs.
INVERTEBRATES		
Antioch Dunes Anthicid Beetle <i>Anthicus antiochensis</i>	-/C2/-	Formerly from Antioch North quadrangle.
Lange's Metalmark Butterfly <i>Apodemia mormo langei</i>	-/FT/-	Antioch Dune area, north-central County area.
San Joaquin Dune Beetle <i>Coelus gracilis</i>	-/C2/-	Formerly from Antioch sand dunes.
Antioch Corhuran Robberfly <i>Cophura hurdi</i>	-/C2/-	Historic observations from Antioch.
Antioch Efferian Robberfly <i>Efferia antiochi</i>	-/C2/-	Historic observations from Antioch.
Valley Elderberry Longhorn Beetle <i>Desmocerus californicus dimorphus</i>	-/FT/-	Willow riparian in east County which have stands of blue elderberry bushes.
Redheaded Sphecid Wasp <i>Eucerceris ruficeps</i>	-/C2/-	Sand dunes; Antioch dunes, Bethel Island.
Bay Checkerspot Butterfly <i>Euphydryas editha bayensis</i>	-/FT/-	Morgan Territory area, east County; Antioch area, north-central County.
San Francisco Tree Lupine Moth <i>Grapholita edwardsiana</i>	-/C2/-	Host plant is <i>Lupinus arboreus</i> ; Point Richmond, Inspiration Point, formerly from Tilden Park.

TABLE 8-2 (Continued)

<u>Taxa</u>	<u>Status¹</u>	<u>Reported Locations</u>
Durants snail <i>Haplotrema duranti</i>	-/-	Usually under moist dead leaves and rockpiles. Oakland East, Las Trampas Ridge, Briones Valley quadrangles.
Snail <i>Helminthoglypta nickliniana bridgesi</i>	-/C2/-	Historic observations from Berkeley Hills, San Pablo Creek, and Marsh Creek Canyon. Prefers rockpiles but sometimes occurs under grass and weeds on open hills.
Curved Foot Hygrotus Diving Beetle <i>Hygrotus curvipes</i>	-/C2/-	Aquatic; historic observations from Oakley.
Middlekaufs Shieldback Katydid <i>Idiostatus middlekaufi</i>	-/C2/-	Antioch.
Molestan Blister Beetle <i>Lytta molesta</i>	-/C2/-	Grasslands; Marsh Creek.
Antioch Multilid Wasp <i>Mymosula pacifica</i>	-/C2/-	Historic observations from Antioch.
Yellow Banded Andrenid Bee <i>Perdita hirticeps luteocincta</i>	-/C2/-	Historically from Antioch.
Antioch Andrenid Bee <i>Perdita scituta antiochensis</i>	-/C2/-	Antioch.
Antioch Specid Wasp <i>Philanthus nasilis</i>	-/C2/-	Formerly from Antioch.
Phalangid <i>Sitalcina serpentinea</i>	-/-	Serpentine grasslands near Clayton.

¹Sources:

California Department of Fish and Game, California Natural Diversity Data Base, computer printout for Contra Costa County, June 1989.

TABLE 8-2 (Continued)

California Department of Fish and Game, 1989 Annual Report on the Status of California's State Listed Threatened and Endangered Plants and Animals, March 1990.

Smith, James P., Jr., and Ken Berg, Inventory of Rare and Endangered Vascular Plants of California, California Native Plant Society, Sacramento, CA, 1988.

²State/Federal/Other Status:

State: California Endangered Species Act (1984), Native Plant Protection Act (1977). Section 15380 of the Guidelines to the California Environmental Quality Act provides that a taxa should be treated as rare or endangered if it meets the State's definition and criteria for Rare or Endangered, even if the taxa is not officially listed as such.

CR=Rare. Plants, that although not currently Threatened, are in such small numbers or restricted habitats that they may become Threatened or Endangered if present conditions continue.

CT=Threatened. Plants or animals likely to become Endangered in the foreseeable future in the absence of protective action(s).

CE=Endangered. Seriously in danger of becoming extinct.

CCE=Candidate for listing as Endangered.

Federal: Federal Endangered Species Act of 1973, as amended.

FE=Taxa formally listed as Endangered.

FT=Taxa formally listed as Threatened.

C1=Candidate taxa for which there is enough information to support the biological appropriateness of proposing to list as Threatened or Endangered.

C2=Candidate taxa for which there is biological information indicating that proposing to list the taxa as Threatened or Endangered is possibly appropriate, but for which substantial data on biological vulnerability and threat(s) are not currently known or on file to support the immediate listing.

C3=Taxa that are no longer under consideration for listing because they are extinct (C3a), have taxonomic problems that do not meet the definition of a "species" in the Federal Endangered Species Act (C3b), or are too common or widespread and/or not subject to any identifiable threats (C3c).

TABLE 8-2 (Continued)

Other:

California Native Plant Society Inventory of Rare and Endangered Plants (Smith and Berg, 1988):

List 1A=Plants presumed extinct in California.

List 1B=Plants rare or endangered in California and elsewhere.

List 2 =Plants rare or endangered in California; more common elsewhere.

List 3 =Plants for which more information is needed.

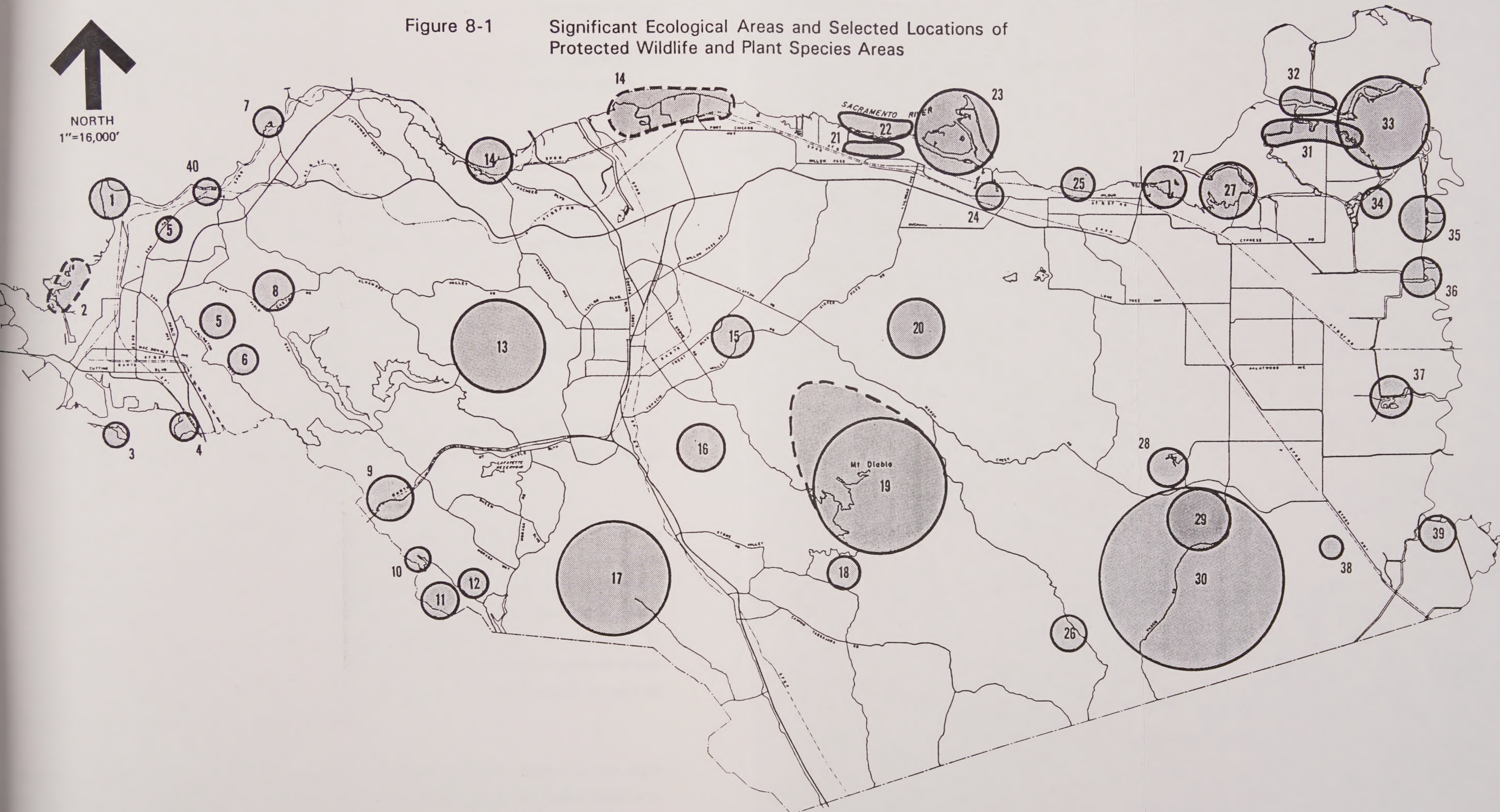
List 4 =Plants of limited distribution (a watch list).

CFP=California Fully Protected Species as designated by California Fish and Game Code.

SSC=Species of Special Concern as designated by California Department of Fish and Game.

Figure 8-1

Significant Ecological Areas and Selected Locations of Protected Wildlife and Plant Species Areas



FOR MAP KEY SEE FIG. VIII - 1 NOTES* ON THE FOLLOWING PAGES

The California Environmental Quality Act provides that species which qualify for classification as endangered, threatened or rare should be protected as such even if they have not been designated under federal or State endangered species laws.

As part of the General Plan review, the County's biotic resource maps have been revised to reflect sightings of endangered, threatened and rare species as inventoried in the Natural Diversity Data Base prepared by the California Department of Fish and Game (CDFG). This information can be used when reviewing development plans to determine the presence of an endangered, rare or threatened plant and/or animal species on a project site. CDFG will be periodically updating information for Contra Costa County as new sightings are reported or additional historical sightings are uncovered. Data inventoried in the Natural Diversity Data Base is only an indication of the potential for the presence of a protected species. Only field surveys can determine the presence or absence of the species or suitable habitat at any particular site.

Some of the unique habitat areas that support federal or State designated endangered species are already protected by public agencies (e.g. Mt. Diablo State Park and the Antioch Dunes), although many key areas remain under private ownership.

One area that has recently been identified as containing a unique habitat is the Vasco Caves area in the rural southeastern corner of the County. Specialized ecosystems appear to exist in the area which are worthy of preservation through either public or private efforts. The acquisition of lands in the area by the County for the East Contra Costa Airport, and of watershed lands by the Contra Costa Water District, may also aid in the permanent protection of some of these resources. To facilitate a better understanding of the unique archeological and natural resources in the Southeast County area, a detailed inventory should be prepared. Efforts to secure financing for such an effort should be explored upon adoption of this plan.

Private landowners of ecologically significant resource areas (identified in Figure 8-2) who apply for subdivision or other land use permits shall, unless sufficient information is already available to the County, provide information to the County on the nature and extent of the biotic resources that exist in the area. The County Planning Agency shall be responsible for determining the balance between the multiple uses of the land and the protection of resources. The cumulative impacts on the natural resources from other rural uses such as agriculture, mining, or wind energy,

must be examined and addressed as part of the review of applications. Both public and private stewardship of the resources within unique natural areas shall be considered as long as the protection is long term and guaranteed in some manner. Due to the fragile nature of some of these resources, however, public access to the areas should be limited or restricted.

The following statements shall guide County elected and appointed officials in making decisions which may affect the ecological resources of Contra Costa County. Note that not all of the biotic areas within the County are discussed here. Goals, policies, and implementation measures regarding riparian corridors vegetation and wildlife along creeks and streams are included in a later section of this element, "Water Resources - Urban and Rural Creeks."

VEGETATION AND WILDLIFE GOALS

- 8-D. To protect ecologically significant lands, wetlands, plant and wildlife habitats.
- 8-E. To protect rare, threatened and endangered species of fish, wildlife and plants, significant plant communities, and other resources which stand out as unique because of their scarcity, scientific value, aesthetic quality or cultural significance. Attempt to achieve a significant net increase in wetland values and functions within the County over the life of the General Plan. The definition of rare, threatened and endangered includes those definitions provided by the Federal Endangered Species Act, the California Endangered Species Act, the California Native Plant Protection Act and the California Environmental Quality Act.
- 8-F. To encourage the preservation and restoration of the natural characteristics of the San Francisco Bay/Delta estuary and adjacent lands, and recognize the role of Bay vegetation and water area in maintaining favorable climate, air and water quality, and fisheries and migratory waterfowl.

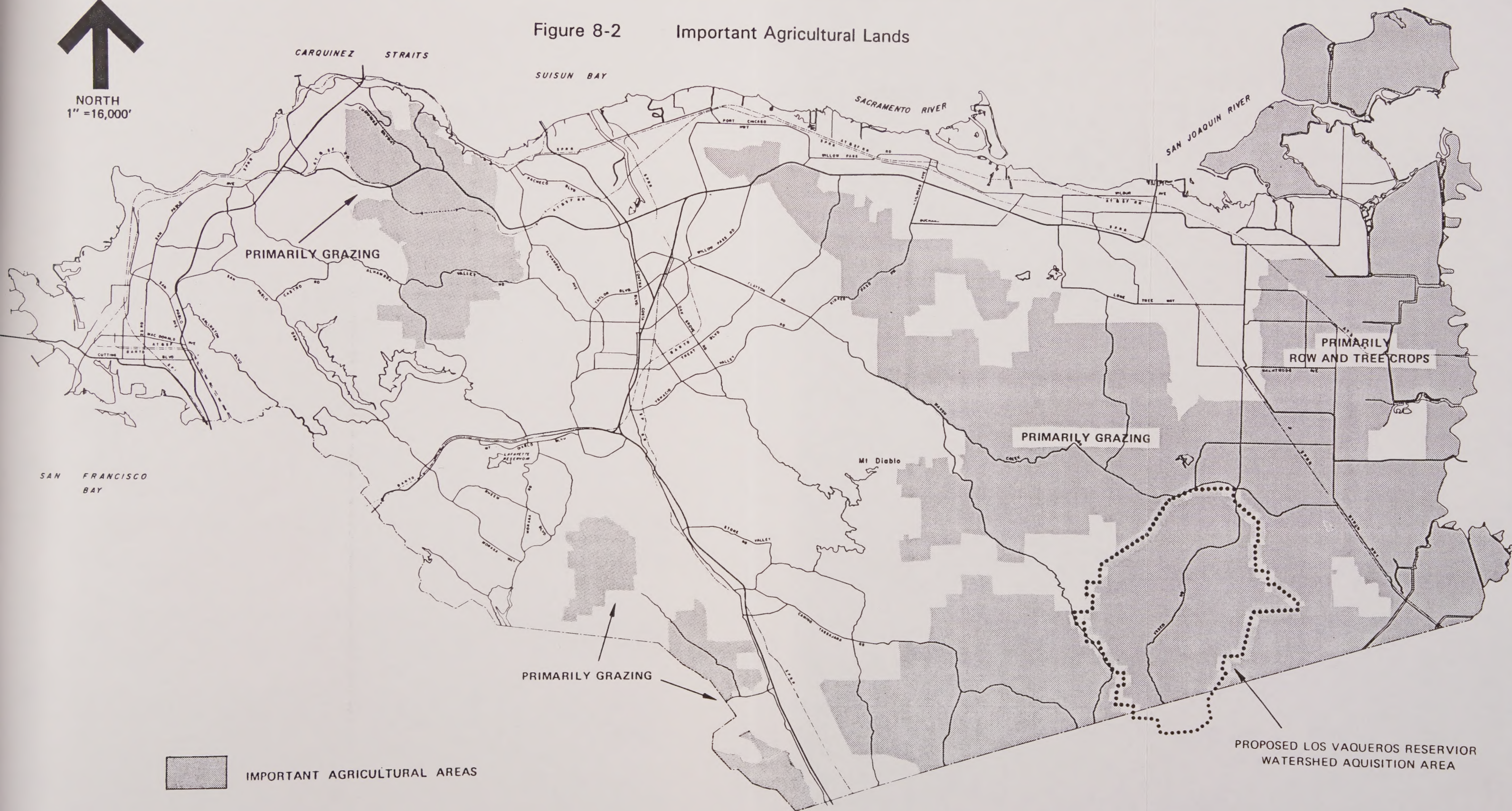
VEGETATION AND WILDLIFE POLICIES

- 8-6. Significant trees, natural vegetation, and wildlife populations generally shall be preserved.
- 8-7. Important wildlife habitats which would be disturbed by major development shall be preserved, and corridors for wildlife migration between undeveloped lands shall be retained.
- 8-8. Significant ecological resource areas in the County shall be identified and designated for compatible low-intensity land uses. Setback zones shall be established around the resource areas to assist in their protection.
- 8-9. Areas determined to contain significant ecological resources, particularly those containing endangered species, shall be maintained in their natural state and carefully regulated to



NORTH
1" = 16,000'

Figure 8-2 Important Agricultural Lands



CONTRA COSTA COUNTY
CALIFORNIA

the maximum legal extent. Acquisition of the most ecologically sensitive properties within the County by appropriate public agencies shall be encouraged.

- 8-10. Any development located or proposed within significant ecological resource areas shall ensure that the resource is protected.
- 8-11. The County shall utilize performance criteria and standards which seek to regulate uses in and adjacent to significant ecological resource areas.
- 8-12. Natural woodlands shall be preserved to the maximum extent possible in the course of land development.
- 8-13. The critical ecological and scenic characteristics of rangelands, woodlands, and wildlands shall be recognized and protected.
- 8-14. Development on hillsides shall be limited to maintain valuable natural vegetation, especially forests and open grasslands, and to control erosion. Development on open hillsides and significant ridgelines throughout the County shall be restricted, and hillsides with a grade of 26 percent or greater shall be protected through implementing zoning measures and other appropriate actions.
- 8-15. Existing vegetation, both native and non-native, and wildlife habitat areas shall be retained in the major open space areas sufficient for the maintenance of a healthy balance of wildlife populations.
- 8-16. Native and/or sport fisheries shall be preserved and re-established in the streams within the County wherever possible.
- 8-17. The ecological value of wetland areas, especially the salt marshes and tidelands of the bay and delta, shall be recognized. Existing wetlands in the County shall be identified and regulated. Restoration of degraded wetland areas shall be encouraged and supported whenever possible.
- 8-18. The filling and dredging of lagoons, estuaries, and bays which eliminate marshes and mud flats shall be allowed only for water-oriented projects which will provide substantial public benefits and for which there are not reasonable alternatives, consistent with State and federal laws.
- 8-19. The County shall actively oppose any and all efforts to construct a peripheral canal or any other water diversion system that reduces Delta water flows unless and until it can be conclusively demonstrated that such a system would, in fact, protect, preserve and enhance water quality and fisheries of the San Francisco Bay-Delta estuary system.
- 8-20. Fish, shellfish, and waterfowl management shall be considered the appropriate land use for marshes and tidelands, with recreation being allowed as a secondary use in limited locations, consistent with the marshland and tideland preservation policies of the General Plan.

- 8-21. The planting of native trees and shrubs shall be encouraged in order to preserve the visual integrity of the landscape, provide habitat conditions suitable for native wildlife, and ensure that a maximum number and variety of well-adapted plants are sustained in urban areas.
- 8-22. Applications of toxic pesticides and herbicides shall be kept at a minimum and applied in accordance with the strictest standards designed to conserve all the living resources of the County. The use of biological and other non-toxic controls shall be encouraged.
- 8-23. Runoff of pollutants and siltation into marsh and wetland areas from outfalls serving nearby urban development shall be discouraged. Where permitted, development plans shall be designed in such a manner that no such pollutants and siltation will significantly adversely affect the value or function of wetlands. In addition, berms, gutters, or other structures should be required at the outer boundary of the buffer zones to divert runoff to sewer systems for transport out of the area.
- 8-24. The County shall strive to identify and conserve remaining upland habitat areas which are adjacent to wetlands and are critical to the survival and nesting of wetland species.
- 8-25. The County shall protect marshes, wetlands, and riparian corridors from the effects of potential industrial spills.
- 8-26. The environmental impacts of using poisons to control ground squirrel populations in grasslands shall be thoroughly evaluated by the County.
- 8-27. Seasonal wetlands in grassland areas of the County shall be identified and protected.
- 8-28. All efforts shall be made to identify and protect the County's mature native oak, bay, and buckeye trees.

VEGETATION AND WILDLIFE IMPLEMENTATION MEASURES

Significant Ecological Resource Inventory

- 8-a. As funding becomes available, prepare a detailed inventory of ecologically significant resource areas which include unique natural areas, wetland areas, habitats of rare, threatened, endangered and other uncommon and protected species. The inventory shall be mapped as an overlay to the existing Resource Mapping System and shall include buffer zones around the identified resource areas in order to take into account for periodic, seasonal, or ecological changes. The maps shall be revised on a regular basis to reflect the availability of new information from other agencies, changes in definition, or any other changes.
- 8-b. Maintain an updated list of State and federal rare, threatened and endangered species which are known or suspected to occur in the County. The following other uncommon or protected species which occur or may occur in the County should also be included in the list: plant species which are included in the California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California, species of special concern as designated by CDFG, and California Fully Protected animals as defined by California Fish

and Game Code. In addition to making updates as new information becomes available, the list should be reviewed at least once every two years for adequacy.

- 8-c. In cooperation with other public and private agencies, prepare a detailed inventory of biological and archeological resources in the Southeast County area, to be used in project review.

Development Review Process

- 8-d. Update and maintain detailed maps of the significant ecological resource areas described in Implementation 8-a above, and use them in the environmental review process to determine potential impacts upon these resources.
- 8-e. Prior to the approval of discretionary permits involving parcels within a significant ecological resource area as described in Implementation Measure 8-a, the County shall require a biotic resources evaluation based upon field reconnaissance performed at the appropriate time of year to determine the presence or absence of rare, threatened or endangered species of plants or animals. Such evaluation will consider the potential for significant impact on these resources, and measures proposed to mitigate such impacts, where feasible, or indicate why mitigation is not feasible.
- 8-f. Prepare a list of standard mitigation measures from which the County could select appropriate measures to mitigate the impacts of projects in or adjacent to significant ecological resource areas.
- 8-g. Require the environmental impact analysis of all significant grassland land sites proposed for development to include an early spring site reconnaissance to determine the presence of vernal pools and rare species associated with vernal pools, and document the use of any seasonal wetlands by water bird species. A general observation of such sites during the dry portion of the year shall be deemed insufficient for environmental review. Significant grasslands include generally parcels of more than 40 acres which are located in an area dominated by native or introduced grass species.
- 8-h. Amend the recently adopted Heritage Tree Preservation Ordinance (sections 816-4.2 through 816-4.1010 of the County Code) to protect all native trees with a trunk circumference of 72 inches or more measured 4 1/2 feet above the ground and to require land owners or developers, not the general public, to demonstrate why the removal of one or more heritage trees is unavoidable in order to build a proposed development project.
- 8-i. Amend the ordinance to require developers to pay mitigation costs according to an adopted schedule, such as requiring, where appropriate, and to the extent legally permissible, that three new trees be planted for every one mature tree removed as part of a development. Replacement trees should be the same or a similar species as the tree removed, and should be native species or naturalized species which are well-adapted to the site's conditions without posing a threat of invasion into surrounding lands.
- 8-j. Amend the ordinance to prohibit damage to heritage trees by soil compaction, grading, filling or alteration of drainage patterns beneath the root zones of heritage trees during

construction. Watering programs for lawns and gardens in new subdivisions should be designed to prevent soil saturation around the root zones of oak trees during the summer months to avoid infection by oak root fungus.

Wetland Areas

- 8-k. A setback from the edge of any wetland area may be required for any new structure. The breadth of any such setback shall be determined by the County after environmental review examining (a) the size and habitat value of the potentially affected wetland, and (b) potential impacts on the wetland, and adjacent uplands, arising out of the development and operation of the new structure. Unless environmental review indicates that greater or lesser protection is necessary or adequate, setbacks generally will be between 50 and 100 feet in breadth. Expansions or other modifications of non-habitable agriculturally-related structures existing as of 1990 shall be exempt from this setback requirement. Parcels which would be rendered unbuildable by application of this standard shall also be exempt.
- 8-l. Permit minor landfill (less than one acre) or other land reclamation for water-oriented uses only if a finding has been adopted by the planning body that verifies no alternative site is available, and if public benefits clearly exceed public detriments from the loss of open water or tidelands areas.
- 8-m. The County shall require avoidance, minimization and/or compensatory mitigation techniques to be employed with respect to specific development projects having a potential to affect a wetland. In evaluating the level of compensation to be required with respect to any given project, (a) on-site mitigation shall be preferred to off-site and in-kind mitigation shall be preferred to out-of-kind, (b) functional replacement ratios may vary to the extent necessary to incorporate a margin of safety reflecting the expected degree of success associated with the mitigation plan, and (c) acreage replacement ratios may vary depending on the relative functions and values of those wetlands being lost and those being supplied.

To the extent permitted by law, the County may require 3:1 compensatory mitigation of any project affecting a "Significant Wetland".
- 8-n. Urge the appropriate State and federal agencies to implement a rigid and frequent inspection system of all industrial facilities along the shoreline which have the potential of creating hazardous spills.
- 8-o. Adopt an emergency response plan which outlines how to ensure the swift construction of floating oil slick barriers at the mouths of all slough and creek channel inlets along the County's shoreline areas, in the event of an oil or other hazardous material spill.

Zoning Ordinance Revisions

- 8-p. Amend the County Zoning Ordinance to include a "Significant Ecological Resources Area" combining district. Apply the zoning to distinct properties with proven significant ecological resource area as defined in (a) above. Consider including in the regulations of the combining district the provisions of (d), (e), (f), (g), (h), (i), (j), (k), (l), (m), (n) and (o)

above. Consider including in the provisions of the combining district performance criteria and standards which shall apply to projects within the district.

Other Programs

- 8-q. Cooperate with, encourage and support the plans of appropriate public agencies to acquire privately-owned lands in order to provide habitat protection for the maintenance of rare, threatened or endangered plant and animal species.
- 8-r. Expand the range of uses or inclusion of land in the Agricultural Preserve Program to include "wildlife habitat area," in compliance with the amended Land Conservation Act of 1965, or the Open Space Easements Program.
- 8-s. Encourage the revegetation of native grass species on lands which have been modified for agriculture, where appropriate.
- 8-t. Require a demonstration that the eradication and control program is necessary to protect agricultural crops and Delta levees, or to prevent or control outbreak plague in an area, and require that the environmental impacts of the program upon other wildlife species are adequately analyzed and documented.
- 8-u. Identify and map "critical erosion areas" on hillsides and in creekbeds in upland areas. Discourage excess grazing practices in erosion areas and institute reclamation measures.
- 8-v. Encourage the propagation of native oaks in foothill woodlands, where appropriate, by limiting cattle grazing to compatible light or moderate levels, and/or encouraging the replanting of native oak species. Proper planting and maintenance techniques are necessary to ensure the long term survival of newly establish oaks.

8.7 AGRICULTURAL RESOURCES

INTRODUCTION

The following section presents background data on the relative importance of the County's agricultural resources. The analysis is based upon economic performance indicators, and indicates that agricultural resources in the County represent a significant economic asset.

The dominant trend in local agriculture in Contra Costa County since 1940 has been a significant decrease in the amount of acreage in production. Much of this decline is attributable to the increasing urbanization of the region, a process which over time gradually converts agricultural lands to housing and other urban uses. In Contra Costa County, land in all types of active agricultural uses (cropland and grazing lands) has declined by almost half, from over 400,000 acres

in 1940 (or 85 percent of the County's total land area) to less than 210,000 acres in 1987 (45 percent of all County lands).

Table 8-3 includes a general summary of changes in acreage devoted to the major types of agricultural production in Contra Costa County since 1940. It should be noted that range and pasture lands, which provide grazing for large farm animals and dry farming of grains for feed, have historically accounted for a large portion of total agricultural acreage in the County. These lands include all areas with steep slopes, rugged terrain, a lack of adequate water supply, or other natural constraints which make the land unsuitable for more intensive agricultural activities. In 1940, two-thirds of all agricultural lands in the County were in this rangelands category; by 1988 rangeland accounted for 87 percent of all agricultural acreage, primarily due to the decline in other intensive farming techniques.

While the total amount of agricultural land county-wide has decreased by 49 percent since 1940, changes in the non-rangeland farm categories have been even greater. Field crops such as hay, barley and wheat grown in the County have plummeted in acreage by 82 percent since World War II, although most of the decline occurred prior to 1970 and the amount of land producing these crops remained relatively stable through the early 1980s (see Table 8-4). Orchard lands devoted to growing fruits and nuts have seen the greatest recent decline, however, registering a 45 percent decrease in acreage between 1980 and 1988.

Vegetable croplands decreased in acreage by over one-half between 1960 and 1987. In 1960, over 10,000 acres of land in the County was planted in asparagus and 2,900 acres in lettuce. By the 1980s, asparagus was being cultivated on about 2,500 acres each year and virtually no lettuce was being grown.

Farmlands supporting fruit and nut trees have decreased significantly since the years prior to World War II when orchards dotted the flat valleys of Central County. Although land producing fruits and nuts declined by less than 40 percent between 1940 and 1970, the numbers distort the true story. While subdivisions replaced the orchards outside Walnut Creek and Concord, new tree crops were planted on irrigated lands in East County. In 1960, there were almost 4,500 acres of apricot and pear trees; by 1988, that number had dropped to less than 1,500 acres. Wine grapes, once grown on over 5,000 acres, now account for less than 1,000 acres. The most important fruit

TABLE 8-3
CHANGE IN AGRICULTURAL ACREAGE BY TYPE OF ACTIVITY¹
IN CONTRA COSTA COUNTY
(1940-1988)

	<u>1940</u>	<u>1950</u>	<u>1960</u>	<u>1970</u>	<u>1980</u>	<u>1983</u>	<u>1988</u>
Pasture and Range	275,500	246,250	217,000	187,060	175,730	176,180	189,090
Field Crops	80,780	55,990	38,170	31,210	22,800	23,130	13,050
Vegetables	21,260	10,750	16,940	7,230 ²	7,680	7,830	10,150
Fruits and Nuts	<u>30,780</u>	<u>30,590</u>	<u>27,510</u>	<u>18,940</u>	<u>11,160</u>	<u>8,790</u>	<u>6,120</u>
TOTAL	408,320	343,580	299,620	244,440	217,370	215,930	218,410

¹Includes only acres harvested or under cultivation, rounded to nearest 10 acres.

²Severe spring frosts during 1970 resulted in an abnormally low number of acres in vegetables. In 1969 and 1971, there were 9,660 and 8,030 acres in vegetable production, respectively.

Source: Compiled from Contra Costa County Agriculture Department annual Crop and Livestock Reports.

TABLE 8-4
GROSS RECEIPTS OF AGRICULTURAL PRODUCTS
(GROSS VOLUME OF SALES IN MILLIONS OF DOLLARS)

	<u>1980</u>	<u>1984</u>	<u>1988</u>
<u>Nursery Products</u>			
Indoor Decoratives	4.9	2.4	1.7
Bedding Plants	4.0	5.8	9.3
Roses	3.9	5.2	5.0
Vegetable Plants	1.4	0.8	0.6
Herbaceous Perennials	1.1	1.1	1.7
Other Nursery Products	1.8	3.0	1.6
Subtotal	17.0	18.3	20.4
<u>Vegetables and Seed Crops</u>			
Tomatoes	5.7	7.4	9.2
Asparagus	2.4	2.9	2.4
Sweet Corn	0.7	1.7	1.4
Squash	0.6	1.0	0.3
Other Vegetables and Crops	1.3	0.8	1.2
Subtotal	10.7	14.9	14.5
<u>Livestock, Poultry, Apiary</u>			
Sale of Beef Cattle	7.6	5.7	4.9
Dairy Milk	4.6	7.4	4.3
Other Livestock/Apiary/Poultry	1.9	2.9	1.2
Subtotal	14.1	16.0	10.4
<u>Fruits and Nuts</u>			
Walnuts	2.8	1.3	1.5
Apricots	1.0	2.0	1.6
Pears	0.8	0.4	N/A
Cherries	0.7	1.0	0.9
Grapes	0.5	0.5	1.5
Other Fruits and Nuts	0.9	1.9	2.6
Subtotal	7.0	7.1	8.1
<u>Field Crops</u>			
Pasture Crops	3.5	3.1	3.7
Sugar Beets	2.9	1.2	N/A
Wheat	1.9	1.3	0.6
Hay	1.9	1.2	2.0
Field Corn	0.9	2.9	1.1
Other Field Crops	1.8	0.9	0.6
Subtotal	<u>12.9</u>	<u>10.6</u>	<u>8.0</u>
GRAND TOTAL	61.6	66.8	61.4

Source: Contra Costa County Department of Agriculture, annual Crop and Livestock Reports.

Note: Gross receipts listed above do not take into account the costs of production, transportation or marketing.

and nut crops in terms of acreage, continue to be walnuts and almonds, which accounted for approximately 2,400-bearing acres in the County in 1988 (down from 4,000 acres in 1987).

Although the cultivated acreage in all categories of farm crops has declined precipitously over the last 50 years, significant increases in productivity have offset the vastly reduced acreage available for some crops. For example, although the land in the County devoted to tomatoes has remained relatively stable (5,900 acres in 1940 to 6,600 acres in 1987), the yield has more than tripled from 39,000 tons to 181,600 tons annually.

As Contra Costa County has undergone a dramatic transition from a rural to suburban environment, specialized forms of agriculture such as nursery products have increased their market share. The largest nursery crop producers are located in the North Richmond area of West County. Production of specialized nursery crops (bedding plants, cut flowers, house plants, shrubs, and Christmas trees) is now by far the largest income producing agricultural operation in Contra Costa County, amounting to \$20 million in gross receipts in 1987.

The sale of nursery crops now makes up one third of the approximately \$60 million collected each year in agricultural receipts. The largest single crop in terms of sales is bedding plants, which has more than doubled from a \$4 million business in 1980 to \$9.7 million in 1987.

The second largest money-producing agricultural category in Contra Costa County after nursery crops is vegetables. Virtually all of the remaining row crop farms with significant annual sales are located on East County lands adjacent to the Sacramento-San Joaquin River Delta. Although only 31 farms were counted as harvesting vegetables at the time of the last farm census in 1982, the market value of the produce has grown to almost \$14.7 million in 1987.

Tomatoes represent the biggest portion of vegetable sales, about \$9 to \$10 million annually, representing an increase from \$7.4 million in 1984. Tomatoes are raised on a dozen East County farms and account for over half of all the cropland used for vegetables. Other important vegetables in the County are asparagus (\$3.2 million in gross receipts in 1987), sweet corn (over \$1 million annually), squash (\$400,000), bell peppers (\$230,000), and beans (\$118,000).

Range and pasture lands, which provide grazing for large farm animals and dry farming of grains for feed, account for a large portion of total agricultural acreage in the County. These lands include all the areas with steep slopes, rugged terrain, a lack of an adequate water supply, or other natural constraints which make the land unsuitable for more intensive agricultural activities. Raising cattle for sale has traditionally been the third most important agricultural activity, in terms of receipts collected each year, after nursery plants and vegetables. Livestock, poultry, and apiary products accounted for \$11.3 million in receipts in 1987. However, the number of livestock in the County, primarily beef and dairy cattle, has declined from 43,000 head in 1960 to 23,000 head in 1984 to about 17,000 in 1987.

Gross receipts for beef and dairy cattle sales accounted for \$6.7 million in 1987. On the dairy side, milk production is still a significant activity in the County, with three large producers. The volume of milk marketed has grown from 283,000 hundred weight (cwt) in 1960 to 361,000 cwt in 1970 to about the same amount in 1987, representing over \$4 million annually in receipts.

Several hundred small and medium-sized orchards remain in the County, on approximately 7,000 acres mainly concentrated in East County. The total production from orchards represents \$7 million in gross sales annually. The most important crops in the fruit and nut category, in terms of acreage, continue to be walnuts and almonds, which account for about 4,000 acres in the County.

The most lucrative orchard crops in Contra Costa County are apricots and walnuts. In 1987, gross receipts from apricots totalled \$1.6 million, followed by \$1.4 million in receipts for English walnuts in the shell. It should be noted, however, that the acreage in walnut orchards has declined by 50 percent during the 1980s as orchards in East County have gone out of business or have been converted to urban uses. Other significant fruit crops in the County are cherries (\$1,038,000 in 1987) and grapes (\$518,000). Gross receipts for all other fruit and nut crops, including peaches, pears, strawberries, pistachio nuts, etc., amount to about \$2.6 million annually.

Field crops include grains such as corn, hay and silage raised for animals, as well as barley, sugar beets, and wheat. Annual gross receipts totalled approximately \$1.4 million in 1987, down from \$1.9 million the year before.

A recurring problem in agricultural areas is the dilemma of permitting a limited amount of land subdivision, without affecting the continued viability of agricultural operations. In Contra Costa County, minor subdivisions of farming properties are often requested so that a member of the family can build an additional home on the property. Banks require collateral for construction loans; few landowners wish to risk the entire holding, or a large portion of it, as security for a construction loan. Minor subdivisions are also requested when a farming family wishes to sell off a small piece of their land in order to make up a shortfall on the remaining operation.

While the limited subdivision of agricultural lands for legitimate reasons should be accommodated by the County, it is apparent that allowing a proliferation of land divisions in a given area will have a disastrous effect on other farmers or ranchers who are trying to remain in business. The proliferation of minor subdivisions has the effect of creating smaller and smaller parcels of land in agricultural areas, with more and more "ranchette" units owned by non-farming families moving into the area and bidding up the price of the land, which in turn drives out the original farmers. Adequate minimum parcel sizes in agricultural zones must be maintained in order to protect the existing farm operations and to discourage urban landowners from building homes in the area.

There are a number of standards and implementation policies which the County can choose from in protecting the economic viability of agricultural land. One opportunity for assisting the farm or ranch operation to remain in business is the concept of "transfer or purchase of development credits" (TDR/PDR). Transfer or purchase of development credits is a method of preserving agricultural and other open space lands by providing the owner with compensation either by providing cash payments for a property's urban development potential or by crediting and transferring this potential to another property. In this way, the agricultural landowner reaps the benefit of agricultural land development potential without the negative effect that construction and occupation of homes on these lands can bring.

Other strategies for the continued viability of agricultural pursuits include preservation agreements with the County, granting conservation easements, direct purchase, leasebacks, tax benefits for agriculture or open space land, purchase or transfer of development rights, clustering development, establishment of an agricultural soils trust fund, and agricultural mitigation fees or land dedication (in-lieu fee).

During the 1970s and 1980s, the County has seen the growth of "ranchette" style housing. These homes appeal to people with urban incomes who wish to pay extra to live in the more rural, hilly parts of the county and are typically located on large lots (five acres or more). Many of these property owners are small time farmers, while some of the demand is from residents who own horses and wish to stable them near their homes. Ranchettes are also occupied by retired ranchers or farmers who do not wish to leave the area, but no longer work the land.

The policies of the Contra Costa County Board of Supervisors regarding ranchettes is contained in a 1983 resolution of the Board (No. 83/407) entitled "Rural Residential Development." The policy states that ranchettes created by such parcelization are inappropriate in prime agricultural areas where active cultivation such as row crops or orchards are present. Furthermore, the policy states ranchettes are to be discouraged within city spheres of influence.

This General Plan incorporates the Rural Residential Development policy as it relates to subdivisions of lands planned for agricultural uses. The plan specifically discourages major subdivisions in agricultural areas. However, if major subdivision occurs, the plan requires rezoning of the project area to the Planned Unit Development District, with the property owner required to deed further development rights to the County in order to mitigate the impact of development of the lands.

The Plan also incorporates an Urban Limit Line. Reflecting Measure C - 1990, for prime productive agricultural lands (Class I and II Soils based on the SCS Capability Classification) outside the Urban Limit Line, a minimum parcel size is determined to be 40 acres. One factor and criteria for determining whether land should be located outside the ULL is also related to the preservation of economically viable agricultural land. Land which qualifies for rating as Class I and Class II in the Soil Conservation Service Land Use Capability Classification is one of the factors to be considered in establishing the ULL. Rural residential and certain agricultural structures (allowed by applicable zoning) are included within the 65 percent non-urban uses in the 65/35 Land Preservation Standard. Agricultural lands within the Urban Limit Line would have variable sizes.

MAPS AND INVENTORY OF AGRICULTURAL RESOURCE AREAS

Figure 8-2 illustrates the most important agricultural lands found in the County. This figure indicates that there are important grazing lands found in the Briones Hills, Bollinger Canyon, Tassajara, and other areas, while the most important orchard and row crops are located in the East County area.

While there are some public lands in the County (e.g., watershed lands owned by the East Bay Municipal Utility District (EBMUD)) that allow the grazing of livestock, these lands are not generally included on the Figure 8-2 map, since grazing is not the primary activity. The use of EBMUD lands, as well as regional or State park lands, for grazing may be discontinued in the future.

The agricultural preservation policies found in this section focus on these remaining important grazing, orchard, and row crop areas in the County.

AGRICULTURAL RESOURCES GOALS

- 8-G. To encourage and enhance agriculture, and to maintain and promote a healthy and competitive agricultural economy.
- 8-H. To conserve prime productive agricultural land outside the Urban Limit Line exclusively for agriculture.
- 8-I. To minimize conflicts between agricultural and urban uses.
- 8-J. To encourage cooperation between the County and cities in the preservation of agricultural lands.

AGRICULTURAL RESOURCES POLICIES

Overall Policies

- 8-29. Large contiguous areas of the County should be encouraged to remain in agricultural production, as long as economically viable.
- 8-30. In order to reduce adverse impacts on agricultural and environmental values, and to reduce urban costs to taxpayers, the County shall not designate land located outside the ULL for an urban land use.

- 8-31. Urban development in the future shall take place within the Urban Limit Line and areas designated by this plan for urban growth.
- 8-32. Agriculture shall be protected to assure a balance in land use. The policies of Measure C - 1990 shall be enforced.
- 8-33. The County shall encourage agriculture to continue operating adjacent to developing urban areas.
- 8-34. Urban developments shall be required to establish effective buffers between them and land planned for agricultural uses.
- 8-35. Residents in or near agricultural areas shall be informed and educated regarding the potential nuisances and hazards associated with nearby agricultural practices.
- 8-36. Agriculture shall be protected from nuisance complaints from non-agricultural land uses.
- 8-37. The use of toxic and nutritive chemicals by agricultural operators shall be minimized.
- 8-38. Agricultural operations shall be protected and enhanced through encouragement of Williamson Act contracts to retain designated areas in agricultural use.
- 8-39. A full range of agriculturally-related uses shall be allowed and encouraged in agricultural areas.
- 8-40. A 40-acre minimum parcel size for prime productive agricultural land (Class I and II Soils per SCS Land Use Capability Classification) shall be established by the County for land outside the designated Urban Limit Line. To the extent feasible, the County shall enter into preservation agreements with cities in the County designed to preserve land for agriculture.

Policies Encouraging the Economic Viability of Agriculture

- 8-41. The promotion and marketing of locally grown agricultural products shall be encouraged.
- 8-42. The importance of the agricultural production, processing, and services industry within the County shall be recognized, and agriculture shall be integrated into the County's overall economic development programs.
- 8-43. The physical and service infrastructure, public and private, which supports agriculture shall be promoted.
- 8-44. Agricultural processing and service businesses in agriculturally designated areas may be permitted.
- 8-45. Efforts to assure an adequate, high quality, and fairly priced water supply to irrigated agricultural areas shall be supported.

- 8-46. Maintenance and reconstruction of Delta levees shall be encouraged to assure the continued availability of valuable agricultural land protected by the existing network of levees and related facilities.
- 8-47. The County shall ensure that its fiscal policies and practices provide the maximum lawful protection to owners of agricultural lands.
- 8-48. Farm worker and farm family housing may be permitted in agricultural areas to meet the needs of locally employed transient and permanent farm workers and family farm workers. In addition to the 40-acre minimum parcel size, and preservation agreements, other standards and policies to protect the economic viability of agricultural land shall be established. These may include conservation easements, an agricultural soils trust fund, and agricultural mitigation fees.

AGRICULTURAL RESOURCES IMPLEMENTATION MEASURES

Rural Residential Development

- 8-w. Requests for subdivision of lands designated for agricultural or open space uses shall be reviewed for consistency with this plan according to the following criteria:
 - (1) Cities should be informed in a timely manner when applications are filed and consulted as to their ultimate plans in the relevant area.
 - (2) Agricultural/Open Space subdivisions are considered a long-term, rural/residential use of the land. Parcel size shall be a minimum of 5 acres in lands designated Agricultural Lands and 20 Acres in lands designated Delta Recreation and 40 acres in lands designated prime productive agricultural lands.
 - (3) Any application for parcels to be separated from a larger parcel or parcels under the same ownership shall indicate on the plan all of the contiguous land held by the applicant.
 - (4) Prior to the filing of the Final or Parcel Map the applicant must comply with the following:
 - (a) Each parcel must have an "on site" producing water well or install a "test well" having a minimum yield of three gallons per minute with bacterial and chemical quality in compliance with the State standards for a pure, wholesome and potable water supply (Title 22, Section 64433). If the chemical analysis exceeds the State standards for "maximum contaminant levels" for water potability, a statement must be attached and "run with the deed" advising of these levels; or
 - (b) Have verifiable water availability data from adjacent parcels presented by the applicant, or knowledge of the same, known by the Health Services Department concerning water quality and quantity per (a)

above; and, have a statement that "attaches and runs with the deed" indicating that a water well shall be installed on the subject parcel complying with the general requirements stated above prior to obtaining a Building Inspection Department permit for construction.

- (c) In addition to the above, a hydrogeological evaluation may be required in known or suspected water short areas. This will include seasonal as well as yearly variations.
- (d) The purpose for requesting hydrogeological evaluations is to determine the total projected number of dwelling units that can be supplied with drinking water from existing aquifers. The two primary circumstances that would generally require hydrogeological evaluations are:
 - (i) Where a proposed major subdivision contemplating the addition of large numbers of dwelling units on individual wells would substantially increase the density within an existing drainage basin. Hydrogeological data relevant to recharge of aquifers and projected yield would become essential not only to support approval of large major subdivisions under these circumstances, but also to ensure that the water supplies serving existing structures would not be depleted by the proposed increase demand.
 - (ii) In those cases where density is increasing in particular drainage basins due to the buildout of previously approved subdivisions using individual wells for water supplies, existing well yields begin to evidence declines due to the increased demand or in water short basins, hydrogeological studies would be appropriate as conditions of approval of subsequent development to provide sufficient yield for proposed uses. Specific reasons will be stated in support of requested hydrogeological evaluations in each case.
- (6) Road, street and access requirements, including necessary right-of-way acquisition and/or dedications, will be subject to the Department of Public Works recommendations for each parcel in accordance with the County Subdivision Ordinance and with standards and policies of that department.
- (7) The land must be suitable for septic tank use according to the County Ordinance Code criteria and Health Services Department Regulations. Percolation tests must be passed on all lots prior to the filing of the Parcel or Final Map.
- (8) The applicant shall indicate on the Tentative Subdivision Map the following information for each parcel: proposed driveways, building site, well site, leach field site, provision for water storage for fire fighting. Homesites shall be designed with a minimum of grading. Where significant grading is needed

and acceptable erosion control plan shall be provided with the application. Home siting shall be reviewed for energy conservation features (building site orientation and feasibility for solar facilities will be considered).

- (9) Parcels shall be reasonable free of hazards, including, but not limited to flooding and high landsliding susceptibility.
- (10) Special detailed plans may be required for provision of flood control, roads and other services.
- (11) Developer shall obtain requirements for road and flood control improvements from County Public Works Department prior to submitting an application for subdivision. Required improvements shall be included on the Tentative Subdivision Map.
- (12) Adequate fencing shall be provided to contain domestic animals on the residential parcels with all gates to be closeable by a nearby rancher/farmer when necessary.
- (13) Exception to any of the above Rural Residential Ranchette criteria may be considered by the hearing body upon a showing, in writing, of unique or unusual circumstances relative to the subject property.

Development Review Process

- 8-x. Within the major resource conservation areas, consider approval of development that is only directly related to agricultural production, recreation, water-related recreation, or the utilization of mineral, soil, water, and animal resources; or agricultural/residential uses of similar character.
- 8-y. Discourage applications for major subdivisions of agricultural lands. Where such applications are accepted for processing, require concurrent application for rezoning of such lands to the Planned Unit Development District. Require deed of development rights to prevent further subdivision when so doing is consistent with law.
- 8-z. Identify and map those properties that include prime productive agricultural soils (Class I and II capability according to the U.S. Soil Conservation Service) for use in the review of development applications and evaluating the ULL.

Zoning Ordinance Revisions

- 8-aa. Modify the agricultural zoning districts to allow agricultural service businesses and uses in agriculturally designated areas as follows:
 - (1) Small agricultural service businesses, which can be defined as a home occupation, are permissible in all agricultural designations;

- (2) Larger agricultural service businesses which have more than one employee but are clearly subordinate to on-site production activities, and which occupy less than 1/2 acre of land and do not adversely affect agricultural production in the area, may be permissible in all agricultural designations, subject to issuance of a land use permit;
 - (3) Agricultural service businesses that occupy more than 1/2 acre of land and are not subordinate to on-site production activities will require rezoning with a "Agricultural Service Combining District" overlay.
- 8-ab. Agricultural employee housing may be permitted, in addition to the residential density allowed by the underlying zoning or land use designation, in accordance with the needs of the local production sector. Criteria to establish the specific conditions which will apply to the agricultural employee housing shall be included in the Zoning Ordinance and shall address permanent and transient employees.
- 8-ac. Review and revise, as necessary, minimum lot size standards in agricultural zoning districts within the Urban Limit Line to be consistent with the goals and policies in this General Plan. Minimum lot sizes for prime productive agricultural soils designated agricultural use in the Land Use Element (Class I and II) shall be set at 40 acres outside the Urban Limit Line.

Infrastructure Services

- 8-ad. Consider detaching land in agricultural production not planned for development from any special taxing districts which are intended to serve urban needs, such as sewage treatment and ospital districts.
- 8-ae. In a manner consistent with growth management policies, allow water lines or other urban infrastructure which must be constructed across agricultural properties outside LAFCO designated Spheres of Influence in order to serve parks, other open space uses, or existing urban development, of a size as needed to serve the open space or existing urban uses. Do not require adjacent property owners to pay for the service, and generally mitigate to an insignificant level any identified growth-inducing impacts of the project.
- 8-af. Provide a circulation system appropriate to rural development to support land uses and economic activity.
- 8-ag. Discourage the construction of growth-inducing highways or roads serving areas outside LAFCO designated Spheres of Influence unless the growth-inducing impacts of the project have been mitigated. Highways built in non-urban areas should limit access to what is necessary to serve planned land uses and emergency needs.
- 8-ah. Encourage water reclamation and other public improvement projects which would increase, enhance, and protect agricultural land and its production capabilities.

Agricultural/Urban Buffers and Conflicts

- 8-ai. Require adequate setbacks for any non-agricultural structures located within or adjacent to cultivated agriculture.
- 8-aj. Where a discretionary development permit is sought within or adjacent to agricultural districts, reduce potential conflicts by creation of a natural or constructed buffer between the agricultural and urban land use. Such buffers must occur on the parcel for which the discretionary permit is sought.
- 8-ak. Where unmitigable conflicts exist between agricultural and residential uses, generally give priority to maintaining the agricultural use.
- 8-al. In grazing areas, include within buffers fencing that will effectively contain grazing animals, keep domestic dogs out of grazing areas, and deter trespassing.
- 8-am. Conduct a study of the nature and extent of the conflicts between agriculture and urban land uses; identify the present and future areas where agriculture and urban land uses border one another; establish specific design guidelines which address:
 - (1) the appropriate width and design features of buffer areas and fencing;
 - (2) the necessary organizational components of homeowners' association language that provide for maintenance of buffers and fences and other measures such as surety bonds;
 - (3) necessary amendments to the Zoning Ordinance and Subdivision Ordinance which assure that the design guidelines are rigorously imposed and enforced; and
 - (4) control of trespassing, crop theft, and vandalism.
- 8-an. Require an agricultural notification statement in the property deeds for all new residential lots created in or adjacent to planned agricultural districts. The statement shall inform owners about allowed adjacent agricultural practices.
- 8-ao. Sponsor educational programs in cooperation with the county's school districts and the East Bay Regional Park District to inform students regarding need to respect agricultural uses.
- 8-ap. Prepare a "Right-to-Farm" Ordinance which protects ranchers and farmers within an agricultural district from nuisance complaints and unreasonable restrictions or regulations on farm structures or farming practices. The ordinance will describe normal farm practices expected to occur in agricultural areas and assure the right of the farmer or rancher to continue such practices subject to appropriate health and safety standards.
- 8-aq. Vigorously enforce the provisions of the existing State of California agricultural nuisance law by the appropriate County departments.

8-ar. Control the predation on grazing animals by domestic dogs by:

- (1) establishing a county-wide law which prohibits free running dogs;
- (2) posting grazing areas with signs specifying the provisions and penalties imposed by the law;
- (3) imposing civil fines upon dog owners whose dogs damage livestock; and
- (4) increasing efforts by County Animal Control to manage free running dogs.

Programs to Support the Economic Viability of Agriculture

- 8-as. Create and support a "Locally Grown in Contra Costa" marketing program. Permit and support a wide variety of promotional and marketing activities of county-grown and processed products. Continue to support the "Harvest Time" Program.
- 8-at. Research means of maintaining and improving the economic viability of agriculture in the County.
- 8-au. Develop Private Industry Council (PIC) programs to assist agriculture provided that such assistance is requested. Individual participation shall be voluntary.
- 8-av. Ensure that the agricultural industry is as eligible for economic assistance and support as is provided to other industries.
- 8-aw. To the extent possible, consider the promotion of agriculture produced in Contra Costa County as a priority in the disbursement of available County funds.
- 8-ax. Cooperate with the County's agricultural interests and communicate supportive positions to State and federal legislative bodies when major legislation is proposed which may affect local agriculture.
- 8-ay. Adopt a "Buy American" policy regarding the purchase of agricultural goods.
- 8-az. Allow agriculturally-related commercial and industrial uses to be conveniently and accessibly located in commercial agriculture areas, subject to appropriate planning and/or permit procedures.

Agricultural Preserve Contracts

- 8-ba. Encourage owners of agricultural land to enter the Agricultural Preserve Program.
- 8-bb. Encourage the continued use of Agricultural Preserve contracts to maintain land in agriculture and to lower property taxes for participating farmers and ranchers.

- 8-bc. Investigate options for making Agricultural Preserve contracts more attractive, such as changes in allowable uses or increasing tax benefits.
- 8-bd. Support property tax assessments within agricultural areas based upon their agricultural use, for properties that do not qualify for the Williamson Act.

Transfer/Purchase of Development Rights

- 8-be. Study the impacts of adopting Transfer or Purchase of Development Rights (TDR/PDR) programs in priority areas of the County as a means of mitigating development pressures and preserving agricultural land. Conduct a detailed study of transfer/purchase of the development credits approach to determine:
 - (1) the overall feasibility and usefulness in implementing General Plan policy;
 - (2) the specific mechanisms to be utilized;
 - (3) the areas of the County where these mechanisms could be utilized;
 - (4) the organizational and administrative requirements of such a program, including an analysis of the benefits of creating a non-profit land trust to hold agricultural land and easements;
 - (5) the cost of the program to the County and potential revenue sources.

Water Conservation and Supply

- 8-bf. Conduct a study of the agricultural irrigation water supply that addresses:
 - (1) existing suppliers and their water delivery infrastructure, water contracts and rights, and their ability to provide irrigation water;
 - (2) competing demands for land and water that affect the long-term availability of irrigation water;
 - (3) investigation of alternative water supplies including treated municipal wastewater; and
 - (4) methods whereby the County can help assure the long-term supply of irrigation water to its farmers.
- 8-bg. Explore and encourage concepts for water conservation and use of agricultural irrigation in order to extend existing supplies.
- 8-bh. Encourage local, State, and federal agencies to investigate and recommend methods of maintaining agricultural productivity with reduced amounts of toxic and nutritive chemicals which can damage water quality.

Levee Maintenance

- 8-bi. Seek State and federal grants to assist in levee maintenance and reconstruction projects.
- 8-bj. Identify local financing mechanisms for funding levee improvements.
- 8-bk. Approve land use policies and other regulations which conserve and protect existing levees.
- 8-bl. Encourage levee maintenance and construction that is sensitive to the preservation of riparian habitat, where feasible.

Other Programs

- 8-bm. Develop programs with the assistance of the County and other appropriate agencies and non-profit organizations to provide adequate housing for transient farm workers.
- 8-bn. Support the County Farm Advisor and the other county departments and special districts which provide services to agriculture, including educational programs that assist farmers and ranchers with financial planning and to effectively utilize available State and Federal programs.
- 8-bo. Promote cooperation between the County and cities to preserve agricultural land by requiring the County to pursue preservation agreements with cities.

8.8 RENEWABLE ENERGY RESOURCES

INTRODUCTION

Contra Costa County has energy resources that have yet to be fully utilized. There are two main sources of renewable energy available to the County: wind energy and solar power.

The Energy Resources Conservation and Development Commission of the State of California has identified the Altamont Pass area, including the Byron Hills portion of Contra Costa County, as an area with high wind potential. The private sector responded to that information and to federal and State tax incentives, which no longer exist, by moving rapidly into the wind energy business as a secondary use to agricultural pursuits. Applications for clusters of wind turbines are generally referred to as "Wind Farms." While the County has approved a substantial number of wind turbines and a large number of units have been constructed under those approvals, there is more property within the wind resource area that could be considered for additional wind farm

development. This potential needs to be balanced against protection of the environmental resources of the southeast County area.

The County's mild climate makes solar heating feasible if structures are properly sited in developments and have their solar access protected. State legislation now exists to protect solar access to individual properties. Solar heating for swimming pools has become common; however, use of this resource is still limited.

Additionally, there are opportunities for conversion of municipal and other wastes to energy resources (e.g., methane). Furthermore, retrofitting existing structures can save substantial amounts of energy.

RENEWABLE ENERGY RESOURCES GOALS

- 8-K. To encourage the use of renewable resources where they are compatible with the maintenance of environmental quality.
- 8-L. To reduce energy use in the County to avoid risks of air pollution and energy shortages which could prevent orderly development.

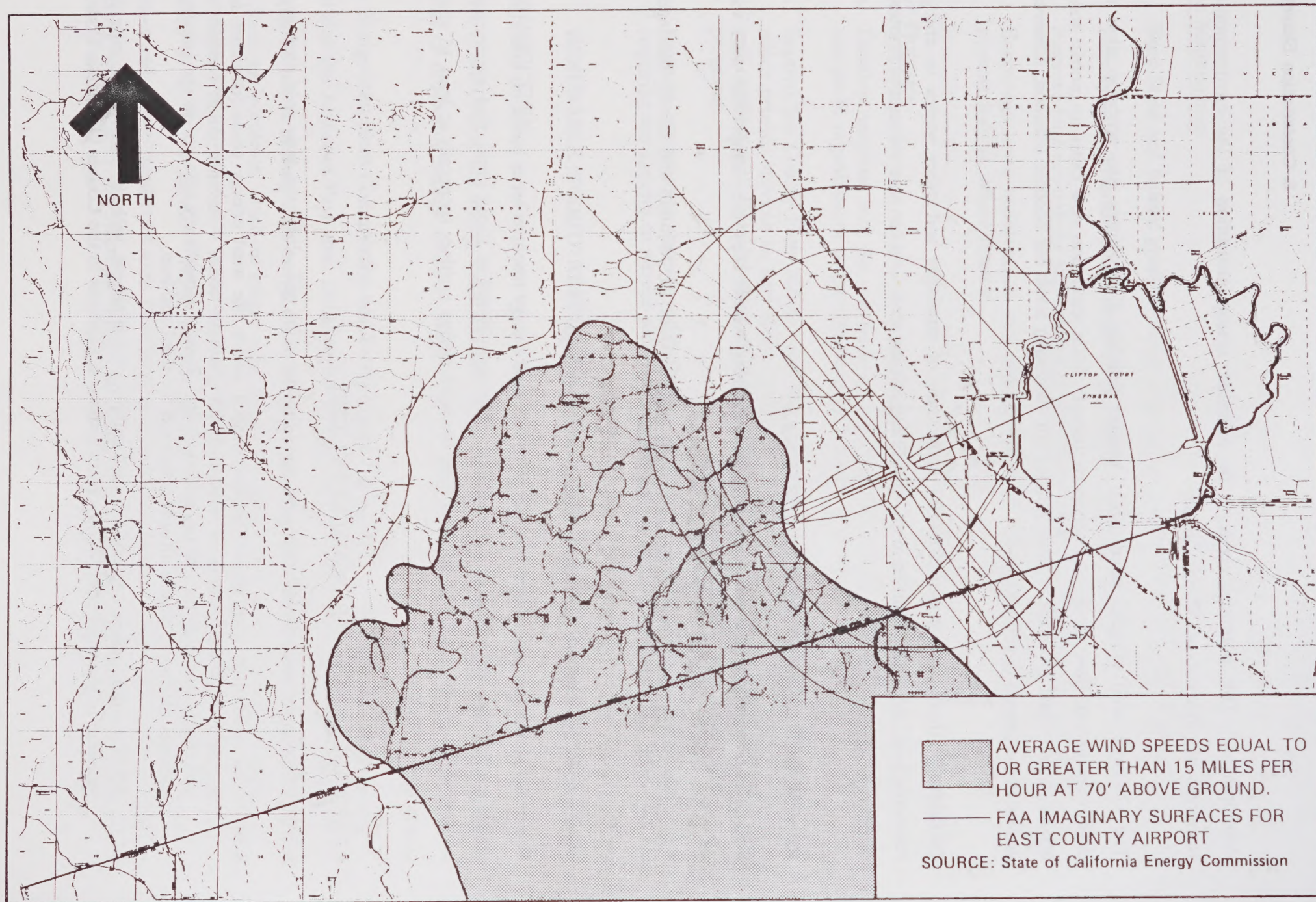
MAP OF RENEWABLE ENERGY RESOURCE AREAS

Figure 8-3 shows the generalized boundaries of the wind energy resource areas based on materials developed for the State Energy Commission. The map identifies those areas that experience average wind speeds capable of being utilized for wind energy turbines (generally at least 15 mph at a height of 70 feet).

RENEWABLE ENERGY RESOURCES POLICIES

- 8-49. Commercial wind farms shall be restricted to the south Byron Hills portion of the County.
- 8-50. New residential uses should be discouraged within the wind energy areas (depicted in Figure 8-3), since clusters of wind turbines generate noise. Turbines could become a nuisance if new subdivisions or residences are allowed immediately adjacent to the existing turbines or on properties already approved for wind turbines.
- 8-51. All new wind turbine applications shall comply, at a minimum, with the site-specific criteria included in the wind energy conversion systems regulations in the County Ordinance Code.

Figure 8-3 WIND ENERGY RESOURCE AREA



- 8-52. Energy recovery projects, e.g. methane recovery from sewage (biomass), shall be encouraged, subject to adequate environmental protection.
- 8-53. The County shall cooperate with PG&E to retrofit existing homes with energy saving devices.

RENEWABLE ENERGY RESOURCES IMPLEMENTATION MEASURES

- 8-bp. Consider wind farm uses to be appropriate land uses within the Byron Hills resource area or along the periphery of the wind energy resource area, subject to careful review of the environmental impacts of specific wind farm proposals. Conformance with the ALUC's Structural Height Limit restrictions shall be required.
- 8-bq. If wind farms become obsolete or abandoned, they shall be entirely removed and the land should shall be returned to its natural pre-project condition.
- 8-br. Require bonding as a condition of project approval to ensure that obsolete or abandoned windfarms are returned to pre-project conditions. Also require periodic review of bond penalties by the County to determine that an appropriate amount is continuously held as surety.
- 8-bs. Prepare guidelines for solar design to be included as a revision to the subdivision ordinance.
- 8-bt. Include provisions for solar access within design review of projects.

8.9 MINERAL RESOURCE AREAS

INTRODUCTION

This section outlines appropriate policies for conserving and utilizing the County's mineral resources for current and future development, while ensuring that adverse environmental effects resulting from surface mining operations are minimized. Mineral extraction is important in Contra Costa County, as in other counties, because minerals such as crushed rock, sand, among others, supply the necessary components for local home building as well as for a diverse array of other industries. As such, the mineral industry is responsible for significant employment within the County.

To protect valuable mineral resources in California, the State Legislature has adopted the Surface Mining and Reclamation Act (SMARA), which includes a process called "classification-designation." The purpose of this process is to provide local agencies with information about the location, need and importance of various mineral resources within their jurisdiction, and to ensure this information

is used in local land use decisions. The first mineral commodity which has been researched and designated by the State in each county is "construction aggregate," which includes sand, gravel and crushed rock.

The most important mineral resources that are currently mined in the County include crushed rock near Mt. Zion, on the north side of Mt. Diablo, in the Concord area; shale in the Port Costa area; and sand and sandstone deposits, mined from several locations, but focussed in the Byron area of southeast County.

MAP OF MINERAL RESOURCES AREAS

Figure 8-4 maps the significant mineral resource areas, found within the unincorporated area of the County, which this plan will protect.

"Sector T" shown on Figure 8-4 is a regionally significant deposit of diabase located in the Mt. Zion area near Concord and Clayton. Diabase is an intrusive igneous rock which is used extensively for roadbase and as rip-rap to prevent streambank erosion. Both Lone Star and Kaiser quarries utilize this resource. Their continued operation is important to the County and the region.

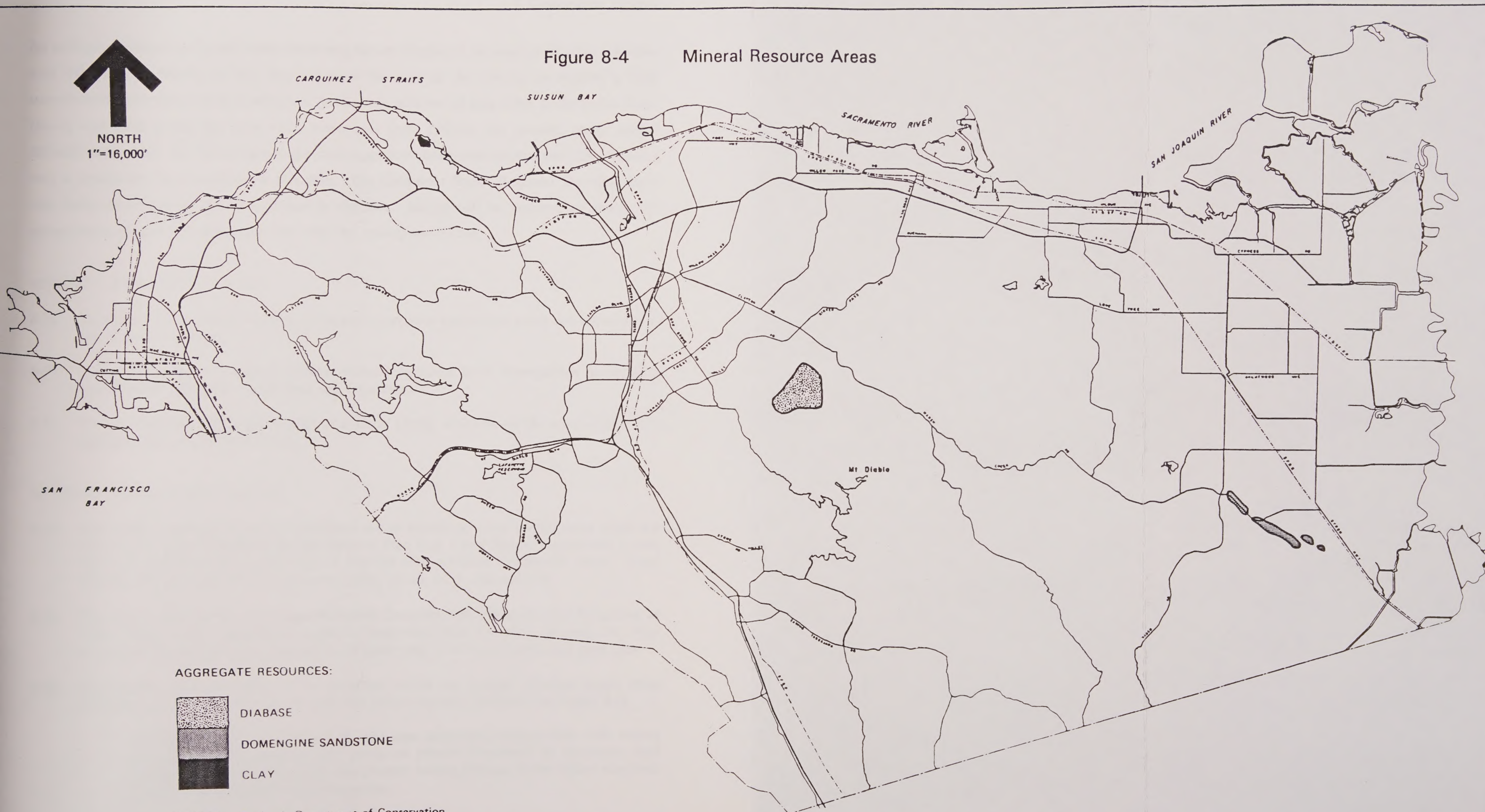
Any expansion of the Mt. Zion quarrying operations will require a new County permit. The permit process shall include a complete analysis of impacts on Mt. Diablo State Park. Ultimately, upon closure of the mining operations, the quarried land should be considered for transfer to the State Park. Concord is considering residential development adjacent to the Mt. Zion quarries.

"Sector GG," identified on Figure 8-4, consists of a geological deposit of domesine sandstone, located just south of Camino Diablo and east of Vasco Road. This mineral resource is a valuable commodity for the continued economic vitality of Contra Costa County, as it is the sole deposit of this material in the State of California, and an important resource nationally. Domesine sandstone is used by Pacific Gas & Electric Company as trench backfill and is a primary ingredient in the manufacture of heat-resistant glass used in the national space program. The resource extends beyond the boundaries designated by the State. This plan calls for the protection of the entire sandstone resource area.



NORTH
1"=16,000'

Figure 8-4 Mineral Resource Areas



AGGREGATE RESOURCES:



DIABASE

DOMENGINE SANDSTONE

CLAY

SOURCE: California Department of Conservation
Division of Mines and Geology
Sacramento, CA

CONTRA COSTA COUNTY
CALIFORNIA

An additional area in the County which has a long history of mineral resource production is located near Port Costa. Mining in this area began at the turn of the century to support a brick manufacturing operation which is unique in the County, and one of only a few in the entire State. Mining and brick production have been continuous from 1905 to the present, under several different ownerships. In 1966, a lightweight shale aggregate facility was constructed. This resource area is designated for protection on this plan. The Carquinez Straits Regional Shoreline Park, now being developed in the area, surrounds the site. Efforts will be required to ensure the compatibility of park and recreation uses with the mining operations.

MINERAL RESOURCES GOALS

- 8-M. To ensure the continued viability of mineral extraction operations which are important to the County's economy.
- 8-N. To protect areas of identified valuable mineral resources from incompatible nearby land uses through zoning and other land use regulations.
- 8-O. To minimize and buffer the impact of surface mining activities on the surrounding land uses and the natural environment.

MINERAL RESOURCES POLICIES

- 8-54. Mining and quarrying shall be a permitted use in certain privately owned areas which are in an open space designation in the General Plan (e.g. Open Space, Agricultural Lands, etc.) and which contain known mineral deposits with potential commercial value. These deposits include, but are not limited to, rocks, gravel, sand, salt and clay.
- 8-55. The shale mined at the Port Costa Materials Company site within an area designated as Heavy Industry and Agricultural Lands is compatible with this plan, although the long-term plan for the site, upon completion of quarrying, is for open space and park uses.
- 8-56. Incompatible land uses shall not be permitted within the mineral resource impact areas identified as containing significant sand and gravel deposits (as shown in Figure 8-4).

Incompatible uses are defined as land uses inherently incompatible with mining and/or uses that require a high public or private investment in structures, land improvements, and landscaping that prevent mining because of the higher economic value of the land and its improvements.

- 8-57. Future development in the vicinity of valuable mineral resource zones shall be planned and designed to minimize disturbance to residential areas or other sensitive land uses and to permit the safe passage of quarry trucks.

- 8-58. Development of compatible land uses shall be encouraged within 1,000 feet of the quarrying sites. Compatible uses include secondary industrial operations related to the quarry operation, recreation facilities, parks, agricultural uses, and permanent open space.
- 8-59. Opportunities to recycle resources and materials related to quarrying operations shall be encouraged where they are compatible with adjacent land uses.
- 8-60. Reclamation plans prepared for the closure of quarries shall include conditions addressing the future use of the property, and a condition of the reclamation plan shall assure that future use.
- 8-61. Any proposals to expand existing quarries, or to create new quarries, adjacent to Mt. Diablo State Park shall carefully analyze impacts upon the park.

MINERAL RESOURCES IMPLEMENTATION MEASURES

- 8-bu. Rezone designated mineral resource areas to stringent agricultural zoning designations (A-20, A-40, or A-80) to protect them for future recovery and from incompatible land uses.
- 8-bv. Establish a buffer zone around designated resource areas which will be rezoned to restrictive agricultural zones of A-20, A-40 or A-80.
- 8-bw. Encourage the recording of notices on property titles in mineral resource areas identifying the presence of important mineral resources.
- 8-bx. Limited residential or ranchette development of mineral resource properties may be appropriate, but residential use shall be identified as secondary to mineral operations and will not be allowed to preclude the full utilization of identified mineral resources. Any nearby residential use will be permitted conditionally after recognizing the probable expansion of mineral operations and accepting the possible nuisance and inconvenience associated with mineral operations.
- 8-by. Require the posting of bonds for all new mining and quarrying permits to guarantee timely and faithful performance of reclamation and mining plans.
- 8-bz. In analyzing the environmental effects of mining operations, the County shall consider, at a minimum, the following concepts in granting a new permit:
 - (1) natural vegetation for buffering;
 - (2) adequate setbacks;
 - (3) central location of processing equipment and equipment storage;
 - (4) dust control;
 - (5) adequate access roads;
 - (6) erosion control;
 - (7) revegetation and re-establishment of natural appearing features on the site;
 - (8) ultimate land use;
 - (9) hours of operation;

- (10) night lighting;
- (11) security fencing;
- (12) noise impacts; and
- (13) protection of water quality.

8-ca. Work with the Cities of Concord and Clayton to protect the aggregate resources around Mount Zion.

8.10 SOIL RESOURCES

INTRODUCTION

Contra Costa County is within the central Coast Range Geomorphic Province of California. This province consists of a northwest-trending series of mountain ranges and intermontane valleys. Unconsolidated alluvium, terrace deposits and bay mud occupy the lowland areas. These earth materials consist of sand, silt, clay and gravel of variable density and strength. Alluvial and terrace deposits occupy the intermontane valleys and lower foothills and Bay muds occupy the eastern northern and northwestern margins of the County. Figure 8-5 shows the County's general soils characteristics.

Soils of the region can be classified in three broad categories: 1) Lowland Soil Associations, 2) Tidal Flat-Delta-Marsh Lowland, and 3) Upland Soil Associations. Each is briefly described below.

- 1) Lowland Soil Associations. The Soil Conservation Service recognized six central lowland soil associations. Most of these soil associations are slowly to very slowly permeable, highly expansive and corrosive with slight erosion hazards.
- 2) Tidal Flat-Delta-Marsh Lowlands. The SCS describes three soil associations in the lowlands of the Tidal Flat-Delta-Marsh area. Soils of these associations are highly expansive, very highly corrosive, and moderately to slowly permeable.
- 3) Upland Soil Associations. Five upland soil associations were recognized by the SCS. These associations are generally highly expansive and corrosive with moderate to slow permeability.

Different soil types have varying levels of susceptibility to erosion, but all soils benefit from conservation management practices. When erosion occurs, topsoil is lost resulting in reduced crop productivity and sedimentation problems downstream. In turn, sedimentation can fill waterways, diminish water quality, and damage sensitive habitats. Erosion occurs when high rainfall, lack of

cover, fragile soils, and steep slopes combine. Urbanization, development activities, recreation, agricultural and logging practices increase erosion.

Soil loss in the County is affected by land use, wind erosion and water erosion. Wind erosion is the greatest factor in soil loss in the Delta area. Grain crops in the Tassajara region of the County are subject to water erosion. Soils in hillside grazing areas are generally stable, but have been stressed recently several years of drought. Grassland vegetation, which stabilizes hillsides, lacks the root structure to hold soils effectively in a severe rainstorm (over two inches precipitation). However, as annual rainfall returns to pre-drought averages, the root structures will repair and the hills will stabilize.¹

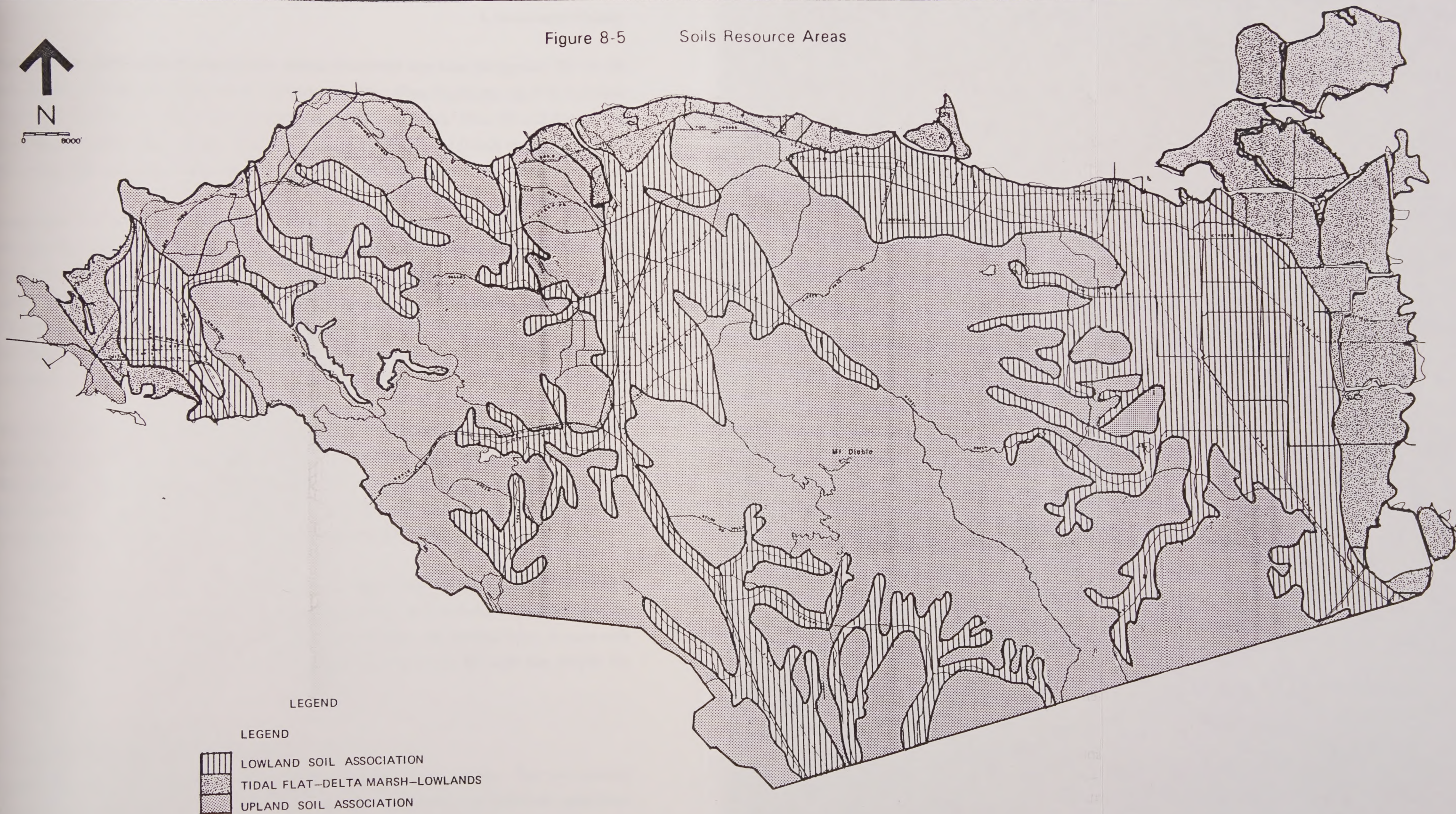
Conversion of agricultural lands to housing or other development temporarily renders exposed soil vulnerable to erosion. This condition improves and stabilizes following construction, if proper construction drainage and landscaping practices have been followed.

AGRICULTURAL SOILS

Less than 40 percent of the land in Contra Costa County consists of Class I, II, and III soils. Class I and II soils are considered "prime," or the very best soils for farming.² Class II soils are found on the Diablo-San Ramon Valley floor, a large part of the Pittsburg-Antioch Plain, throughout the San Joaquin Delta region, and along the stream channels of many smaller valleys in the Briones Hills and Diablo Range. Because these areas are located along the traditional transportation corridors, urban development has also moved much of this Class II land from production, most recently in the Pittsburg-Antioch area.

The largest remaining agricultural area with Class I and II soils includes approximately 17,000 acres centered around Brentwood in East County. The area of prime soils extends westward into the Deer Creek, Marsh, and Kellogg valleys, southward to the town of Byron, extends eastward to Discovery Bay, and northward along the ATSF railroad tracks into Oakley. Figure 8-5 illustrates the prime soils types in the East County where most of the impacts of the proposed County General Plan will occur. Class I and II lands in the Soil Conservation Land Use Capability Classification is a factor which may be used in establishing the ULL.

Figure 8-5 Soils Resource Areas



Important soil types in the Brentwood area include Brentwood clay loam (designated "Bb" on the figure) which is Class I soil; Brentwood clay loam, wet ("Bc," Class II); Capay clay, 0 to 2 percent slopes ("CaA," Class II); Capay clay, wet, 0 to 2 percent slopes ("CbA," Class II); and Rincon clay loam, 0 to 2 percent slopes ("RbA," Class II). Most of the Class I and II soils in East County are still under agricultural production although significant development pressure exists in the area.

Large areas of Class III soils are found on the islands of the San Joaquin Delta and on lands in the growing Oakley community. Most of Oakley is composed of Class II Delhi sand, described by the U.S. Soil Conservation Service as "excessively drained soils" where runoff is slow or very slow. Delhi sand is used to grow irrigated almonds, vineyards, and some walnuts. The predominant Class III soils found on Delta islands are from the Kingile and Rindge associations, which are described as "very poorly drained organic soils" used primarily for irrigated field corn, milo, asparagus, tomatoes and pasture.³

The next category of soils, Class IV soils, tend to be poorly drained, have excess salts, or are too steep for continuous cultivation. Where cultivable, as in East County and in the southern Diablo Range region, they are suited to irrigated pasture and dry farming of grains such as barley. Where too steep for cultivation, as in the foothills of the Diablo Range, Class IV soils are excellent grazing land less subject to erosion and overgrazing than other range areas.

The role of climate in mitigating some of the shortcomings of the soil characteristics in California makes the distinction between prime and non-prime less clear. In Contra Costa County, where the influence of coastal fog is felt in the western and central regions, the growing season in areas such as Tassajara Valley and Morgan Territory is extended and even Class IV lands may support dry field crops.

Maps and Inventory of Soil Resource Areas

Figure 8-5 illustrates the location of soil resources found in the County. The soil resource preservation policies found in this section focus on the soil resources and important agricultural soils of the County.

SOIL RESOURCES GOALS

- 8-P. To encourage the conservation of soil resources to protect their long-term productivity and economic value.
- 8-Q. To promote and encourage soil management practices that maintain the productivity of soil resources.

The following policies and implementation measures, in addition to those identified in the Agricultural Resources Section, shall be used to carry out these goals.

SOILS RESOURCES POLICIES

- 8-62. The County shall protect soil resources within its boundaries.
- 8-63. Erosion control procedures shall be established and enforced for all private and public construction and grading projects.
- 8-64. The County shall support and encourage existing local, State, and federal soil conservation and restoration programs within its borders.
- 8-65. In the absence of more detailed site-specific studies, determinations of soil suitability for particular land uses shall be made according to the Soil Conservation Service's Soil Survey of Contra Costa County.
- 8-66. The existing County slope map shall be used to identify areas in the County where slope poses severe constraints for particular land uses.
- 8-67. Lands having a prevailing slope above 26 percent shall require adequate special erosion control and construction techniques.
- 8-68. Lands having a high erosion potential as identified in the Soil Survey shall require adequate erosion control methods for agricultural and other uses.

SOILS RESOURCES IMPLEMENTATION MEASURES

- 8-cb. Apply the appropriate land use designations to areas with productive agricultural soils.
- 8-cc. Annually review the California Department of Conservation's updated Important Farmland's Map and the amount of land in the County converted to and from agricultural use.
- 8-cd. Design discretionary projects so that structures and roads are not located on slopes of 26 percent or greater. This requirement is not intended to preclude existing parcels as building lots if Health Department and Building Department requirements can be met.

Development Review Process

- 8-ce. Include erosion control measures for any discretionary project involving construction or grading near waterways or on lands with slopes exceeding 10 percent.
- 8-cf. Encourage agricultural land owners to work closely with the U.S. Soil Conservation Service and local Resource Conservation Districts to reduce soil erosion and to encourage soil restoration.
- 8-cg. Require a soil conservation program to reduce soil erosion impacts for discretionary projects which could increase waterway or hillside erosion. Design improvements such as roads and driveways to retain natural vegetation and topography to the extent feasible.
- 8-ch. Retain natural vegetation and topography to the extent economically feasible for any discretionary project improvements near waterways or in areas with a high risk of erosion as noted in the Contra Costa County Soil Survey.
- 8-ci. For discretionary projects, prepare and submit to the County Board of Supervisors an erosion and sediment control plan to be included as part of the project.
- 8-cj. Continue to enforce the Uniform Building Code to reduce erosion and slope instability problems.

8.11 OIL AND GAS RESOURCES

INTRODUCTION

Contra Costa County is one of the leading counties in the State in terms of natural gas production. The County also has a small volume of oil production. The most productive oil and gas fields are concentrated in the eastern portion of the County. The area contains the Brentwood, Oakley, East Brentwood and Dutch Slough fields and a portion of the Rio Vista field, the largest of its type in the State. These fields are all located north of the City of Brentwood and east of Antioch. The only other field of significance, Los Medanos, is located in the hilly area north of Route 4, between West Pittsburg and the Concord Weapons Station. Other smaller resource areas are scattered throughout the County.

The production of oil and gas from wells is an important secondary use of land in the County. The policy issues on this matter deal more with regulation on the extraction of this resource than the appropriateness of use. Issues which need to be dealt with include noise (including drilling, operation, and production enhancement), aesthetics, access to the wells and the impact of

equipment on public roads. Efforts need to be made to encourage unified drilling sites to minimize these land use impacts. Natural gas storage areas, such as the Los Medanos Gas Storage field, should be encouraged as more efficient than using surface storage tanks.

OIL AND GAS RESOURCES GOALS

- 8-R. To achieve utilization of oil and gas resources in a manner beneficial to all County residents.
- 8-S. To minimize the impact of oil and gas extraction activities on the surrounding land uses and the natural environment.

OIL AND GAS RESOURCES POLICIES

- 8-69. The production of gas and oil resources shall be encouraged as a way to support the agricultural viability of rural areas.
- 8-70. New wells shall be reviewed and approved in a fashion to minimize noise, aesthetic and public safety problems.
- 8-71. The potential impacts of oil and gas extraction on the subsistence of land, especially land near bodies of water and in the Delta, should be investigated. If necessary, special regulations should be proposed and applied to existing operations.
- 8-72. New wells shall not be allowed to be drilled in wetland areas.
- 8-73. Where safety can be assured, the storage of gas in underground natural basins shall be considered preferable to above ground storage tanks.

OIL AND GAS RESOURCES IMPLEMENTATION MEASURES

- 8-ck. Develop standards for resolving conflicts between proposed wells and residences in terms of setbacks, allowable noise, etc.
- 8-cl. Review the need for impact fees for new well permits on area roads.
- 8-cm. Fund and monitor the subsidence studies currently underway to better understand the impacts of continued drilling of new wells and pumping of these resources.
- 8-cn. Review procedures for well abandonment to assure that the land is returned to its natural surface condition.
- 8-co. Utilize the Wetlands Protection Map from the U.S. Department of Fish and Wildlife identifying areas subject to prohibition of oil and gas well drilling.

8.12 WATER RESOURCES

INTRODUCTION

Contra Costa County has a moderate climate, similar to a Mediterranean climate. Measurable rainfall recorded annually in the City of Richmond averages about 21.8 inches per year, with the majority falling between October and April. Average temperatures are mild, and generally range between 50 and 66 degrees F in Richmond.

The County is bounded by San Francisco Bay and San Pablo Bays to the west, by Suisun Bay and the channels of the (Sacramento and San Joaquin Rivers), and the south by Alameda County. The San Francisco Bay Delta System (including San Pablo Bay) is generally regarded as the most important water body in California. It is used extensively for both recreational and commercial purposes, and supports a diverse flora and fauna. Water from about 40 percent of the land in California drains into the Bay and comprises most of the State's agricultural and urban supplies.

The San Francisco Bay has been greatly altered from its natural conditions by human activities. The quality of waters of the San Francisco and San Pablo Bays vary seasonally. For most of the year, water quality is similar to that of the Pacific Ocean. From December through April, water quality is affected by freshwater inflow from the Sacramento-San Joaquin Delta and from other local, smaller tributaries that drain urbanized portions of Contra Costa County and the entire Bay Area.

Water quality in the Delta is affected by a multitude of factors including upstream reservoir releases; tidal changes; the discharge of agricultural diverters; and the export rates of the State Water Project and the Central Valley Project. A number of statutes have been enacted specifically regarding the Delta. The California State Water Resources Control has been conducting hearings regarding the Bay/Delta system and the future of water diversion from this system.

The California State Regional Water Quality Control Board (RWQCB), San Francisco Bay Region, is the government agency responsible for protecting the health of San Francisco Bay. A water quality control or "basin plan" has been prepared that serves as a blueprint for water pollution control activities in the Bay. The basin plan identifies a number of beneficial uses of the Bay that

must be protected, including non-contact recreation; wildlife habitat; preservation of rare and endangered species; estuarine habitat; warm freshwater and cold freshwater fish habitat; fish spawning and migration; industrial service supply; navigation; and commercial and sport fishing.

All of Contra Costa County's water drains either directly or indirectly into the Bay/Delta system. Water from the western, urbanized portion of the County drains directly into San Francisco Bay or San Pablo Bay, while that from the northern and eastern portions drain into Suisun Bay and the Delta river channels, eventually flowing into San Pablo and San Francisco Bays. The south-central portion of the County is within the Alameda Creek drainage basin; this area's water drains south to Alameda Creek, then west to the San Francisco Bay.

Municipal water supply is provided to Contra Costa County by two main water purveyors. East Bay Municipal Utility District (EBMUD) provides water service to a large portion of the East Bay, including the urbanized western portion of the County (Crockett, Richmond, El Cerrito, etc.), as well as to central portions of the County, including Orinda, Lafayette, Walnut Creek, Danville and San Ramon. Most of EBMUD's water comes from Pardee Reservoir on the Mokelumne River, located in the foothills of the Sierra Nevada. EBMUD provides water of a very high quality.

The Contra Costa Water District (CCWD) provides water service to most of the urban remainder of the County. CCWD provides raw (untreated) water to the cities of Antioch, Pittsburg and Martinez, and to the Oakley Water District and West Pittsburg (private company). In addition, CCWD provides treated water to the cities of Concord, Pleasant Hill, Walnut Creek, and Clayton.

CCWD obtains its water from the Contra Costa Canal, which is part of the Central Valley Project. Water for the canal is diverted from the delta at Rock Slough, eight miles east of Antioch. CCWD operates the Contra Loma Reservoir (storage capacity 2,095 acre-feet) and the Martinez Terminal Reservoir (capacity 268 acre-feet). Until the early years of this century, Contra Costa County relied on groundwater and local surface water to fulfill its needs. Now, however, virtually all of the domestic water used within the County is from the Delta.

All wastewater generated within the developed portions of the County is treated by conventional methods; this treated wastewater is then discharged into the Bay/Delta system through submarine outfalls. Municipal dischargers are issued permits from the RWQCB, and include Central Contra

Costa Sanitary District, Delta-Diablo Sanitation District, West Contra Costa Sanitary District, City of Richmond, Mountain View Sanitary District, Rodeo Sanitary District, and the City of Pinole. All municipal dischargers of treated wastewater within the County generally have good records of compliance with their discharge permits, except Richmond which has had problems with its wet-weather discharges. Other, lesser developed portions of the County utilize septic systems for their wastewater disposal. The water quality of creeks within urbanized areas has been degraded by the presence of high levels of suspended solids, together with traces of contaminants associated with the operation of motor vehicles such as oil and grease, gasoline and other hydrocarbons, lead, rubber, etc. No serious water quality problems exist within the County; however, an unknown quantity of hazardous wastes are currently disposed of by illegal or unsafe means. These disposal practices could lead to surface and groundwater contamination that may not be detected.

Certain portions of the County are more prone to flooding than other portions. In general, the low-lying areas adjacent to San Francisco, San Pablo and Suisun Bays, and the eastern portion of the County near the San Joaquin River are the most susceptible to flooding.

Urban and Rural Creeks

When Contra Costa County was sparsely populated and predominantly rural, creeks and streams flowed uninterrupted from the coastal hills to the Bay and Delta. These watercourses supported a wide variety of plant, animal, and aquatic life. Riparian vegetation and streamside habitats minimized erosion, sustained perennial streams, contributed to groundwater reserves, moderated temperature extremes and provided an attractive and pleasant environment. It is of benefit to County residents to preserve vestiges of this pre-settlement environment and to work toward re-establishing this environmental heritage.

As agricultural land in portions of the County was converted to urban uses, permeable ground surfaces were replaced with impervious surfaces. Paving, roofs, and efficient drainage systems reduced the proportion of rainfall percolating into the ground and increased the volume and velocity of surface runoff carried to the creek channels. This resulted in increased flood frequency and severity, channel cutting and loss of vegetation in upper watersheds, and silting in lower channels.

Creeks and streams were relocated and realigned to accommodate increased flows. Channels were increased in width and depth and lined with concrete or rip-rap. Creeks were placed in conduits and culverts. Although these improvements have been effective in transporting stormwater runoff and in reducing flooding and property damage, these benefits have come at the expense of natural channels and native riparian habitat, which are difficult to replace and are sometimes irreplaceable.

Traditionally, the more efficient the drainage system feeding into a natural watercourse, the greater the damage to natural waterways and streamside vegetation and the greater the downstream flood damage risk. The continued use of traditional drainage facilities in individual development projects exacerbates these problems. Many undeveloped properties lie upstream from established urban development. Each new development project which increases peak runoff, although seemingly insignificant, contributes to a future need to make improvements to existing downstream public flood control facilities and natural channels at substantial cost to county residents. The use of alternate stormwater management techniques such as the floodplain, the levied floodway, the bypass channel, and the detention basin can either lessen or eliminate completely the need for these improvements, reducing public costs and providing a more diverse and attractive environment.

While it may be desirable to keep all of the remaining creeks and streams in their natural state, this is not always possible. Within existing developed areas, structural modifications to watercourses are often the only viable alternative. The shortage of available land within a built-up urbanized area, as well as its high cost, may rule out the possibility of keeping a watercourse in its natural state. Where this is the case, alternate structural approaches can be utilized which are designed to be compatible with their environment. Instead of rip-rap and concrete, slope protection devices can be used to stabilize banks. Landscaping can also be used to soften the visual impact of structurally modified watercourses.

Control of flooding is not the only drainage concern. With increased development and stormwater runoff, a wide variety of nutrients and toxic substances have been introduced into county waters. Nutrient wastes in the form of sewage, agricultural fertilizers, and manure lead to reduced dissolved oxygen in surface waters and limit the capacity of water to support aquatic organisms. Toxic substances, such as industrial wastes, insecticides and herbicides, can poison wildlife and become concentrated in the food chain. Both types of pollutants can adversely affect the quality of groundwater.

Erosion and sedimentation often inflict heavy public costs for flood control, harbor and channel dredging, post-flood clearing and private property damage, besides damaging aquatic life and carrying toxic substances into public and private water supplies. Design and construction techniques have been developed which are cost-effective and essential to erosion and sedimentation reduction.

There is also a need to provide enhanced opportunities for public access to creeks, streams, and drainage channels, where conditions and liability constraints permit. Total county population will continue to increase and with it the demand for recreation facilities will grow. Drainage features which can be made into parks or open space, or incorporated as assets into new development projects, will be used and appreciated by present and future county residents.

The Contra Costa County Flood Control and Water Conservation District is empowered to control flood and storm waters throughout the county. Even though the district has no direct influence over the County or the cities regarding land use and planning matters, the district does develop drainage plans for entire watersheds which cross jurisdictional boundaries. These drainage plans specify the flood control improvements needed to serve planned development in the area and are used to set drainage fees assessed against new development.

A more complete discussion of adopted and proposed drainage plans, as well as numerous flood control goals, policies and implementation measures, are included in the "Drainage and Flood Control" section of the Public Facilities/Services Element (Chapter 7). Readers should note that there is a great deal of overlap between these two sections of the General Plan; some goals and policies are repeated in both sections. Both this section and the "Drainage and Flood Control" section in Chapter 7 should be consulted together for a full understanding of County policies regarding flood control, waterways and riparian areas.

WATER RESOURCES GOALS

- 8-T. To conserve, enhance and manage water resources, protect their quality, and assure an adequate long-term supply of water for domestic, fishing, industrial and agricultural use.
- 8-U. To maintain the ecology and hydrology of creeks and streams and provide an amenity to the public, while at the same time preventing flooding, erosion and danger to life and property.

- 8-V. To preserve and restore remaining natural waterways in the county which have been identified as important and irreplaceable natural resources.
- 8-W. To employ alternative drainage system improvements which rely on increased retention capacity to lessen or eliminate the need for structural modifications to watercourses, whenever economically possible.
- 8-X. To enhance opportunities for public accessibility and recreational use of creeks, streams, drainage channels and other drainage system improvements.

GENERAL WATER RESOURCES POLICIES

- 8-74. Preserve watersheds and groundwater recharge areas by avoiding the placement of potential pollution sources in areas with high percolation rates.
- 8-75. Preserve and enhance the quality of surface and groundwater resources.
- 8-76. Ensure that land uses in rural areas be consistent with the availability of groundwater resources.
- 8-77. Provide development standards in recharge areas to maintain and protect the quality of groundwater supplies.

Policies to Protect and Maintain Riparian Zones

- 8-78. Where feasible, existing natural waterways shall be protected and preserved in their natural state, and channels which already are modified shall be restored. A natural waterway is defined as a waterway which can support its own environment of vegetation, fowl, fish and reptiles, and which appears natural.
- 8-79. Creeks and streams determined to be important and irreplaceable natural resources shall be retained in their natural state whenever possible to maintain water quality, wildlife diversity, aesthetic values, and recreation opportunities.
- 8-80. Wherever possible, remaining natural watercourses and their riparian zones shall be restored to improve their function as habitats.
- 8-81. Fisheries in the streams within the County shall be preserved and re-established wherever possible.
- 8-82. Riparian habitat shall be protected by providing for channel cross-sections adequate to carry 100-year flows, as per policies contained in the Public Facilities/Services Element. If it is not possible to provide a channel cross section sufficient to carry the 100-year flow, then detention basins should be developed.

- 8-83. The remaining willow riparian areas in East County shall be protected from intensive cattle grazing.
- 8-84. Riparian resources in the Delta and along the shoreline shall be protected and enhanced.

Policies for New Development Along Natural Watercourses

- 8-85. Natural watercourses shall be integrated into new development in such a way that they are accessible and provide a positive visual element.
- 8-86. Existing native riparian habitat shall be preserved and enhanced by new development unless public safety concerns require removal of habitat for flood control or other public purposes.
- 8-87. On-site water control shall be required of major new developments so that no increase in peak flows occurs relative to the site's pre-development condition, unless the Planning Agency determines that off-site measures can be employed which are equally effective in preventing adverse downstream impacts.
- 8-88. New development which modifies or destroys riparian habitat because of needed flood control, shall be responsible for restoring and enhancing an equivalent amount of habitat within or near the project area.
- 8-89. Setback areas of at least 100 feet shall be provided along natural creeks and streams in areas planned for urbanization. The setback areas shall be of a width adequate to allow maintenance and to prevent damage to adjacent structures, the natural channel and associated riparian vegetation.
- 8-90. Deeded development rights for lands within established setback areas along creeks or streams shall be sought to assure creek preservation and to protect adjacent structures and the loss of private property.
- 8-91. Grading, filling and construction activity near watercourses shall be conducted in such a manner as to minimize impacts from increased runoff, erosion, sedimentation, biochemical degradation, or thermal pollution.
- 8-92. Revegetation of a watercourse shall employ native vegetation, providing the type of vegetation is compatible with the watercourse's maintenance program and does not adversely alter channel capacity.
- 8-93. Particular care shall be exercised by development proposals to preserve and enhance riparian corridors along creeks which connect to the freshwater marsh segments of coastal areas in the North Central and East County areas.
- 8-94. Applications to expand marine uses shall be carefully evaluated to ensure that a gain, not a loss, of any associated riparian vegetation will result. Runoff of pollutants into marsh and wetland areas from nearby urban development, should be prevented by prohibiting any storm sewer outflow pipe in such areas and by requiring berm or gutter structures at

the outer boundary of the buffer zones which would divert runoff to sewer systems for transport out of the area.

WATER RESOURCES IMPLEMENTATION MEASURES

Riparian Resources Inventory

- 8-cp. Work with appropriate agencies to inventory the County's riparian resources and to identify areas warranting preservation and enhancement.

Zoning and Code Revisions

- 8-cq. Review and revise the County ordinance code to provide for the protection and enhancement of watercourses and riparian vegetation, as outlined in the above policies (e.g. building setback requirements, regulations limiting the removal of trees and vegetation, etc.).

Other Programs

- 8-cr. Develop a program that fosters the participation of public agencies, private organizations and individuals in the development of watershed management practices that reduce soil loss and excessive runoff (i.e. control of grazing in upper watersheds, timing of release of water from upstream dams, revegetation of upper watersheds), and that minimize the effect on downstream areas.
- 8-cs. Develop a program for the restoration of riparian vegetation in rural creeks where grazing activities are reducing the extent of the vegetation and are eroding channel banks.
- 8-ct. Develop guidelines for creek maintenance practices which assure that native vegetation is not removed unnecessarily. These guidelines should also assure that maintenance is scheduled to minimize disruption of wildlife breeding practices.
- 8-cu. Re-evaluate the flood control drop structures and long spillways that have been constructed in many of the creeks in North Central County (Walnut Creek, Concord, and Pleasant Hill) to determine the feasibility of constructing fish bypass facilities which would allow anadromous species access to inland spawning sites.

Development Review Process

- 8-cv. Review all public and private projects adjacent to and within creeks and streams to determine their conformance with the policies of this General Plan.
- 8-cw. As a priority, define and implement a development review process for new projects that ensures conformance with the stream and riparian corridor protection policies of this plan.

- 8-cx. During the review of proposed development plans, the County staff shall require a building setback of at least 100 feet along natural creeks and streams, and seek to obtain deeded development rights on lands within setback areas.
- 8-cy. New parcels which are created shall include adequate space outside of the watercourses' setback areas for pools, patios, and appurtenant structures to ensure that property owners will not place improvements within the areas which require protection.
- 8-cz. Through the environmental review process, the likely effects of construction and other proposed activities on nearby natural watercourses and related open space shall be determined. Measures shall be identified that will mitigate these effects and encourage the preservation of natural waterways and related open space. Such measures may include, but are not limited to:
 - (1) Clustering of buildings and other site design features;
 - (2) Restoration or enhancement of other riparian habitat within or near the project area; and
 - (3) Purchase of development rights for lands within other stream setback areas.
- 8-da. When alteration of streambanks or streambeds is proposed, notify the State Department of Fish and Game in accordance with their authority under State law and/or when their assistance is needed.
- 8-db. As a condition of approval for discretionary permits which intensify cattlegrazing, 100-foot buffer zones along creek systems should be declared "riparian preserves"; establish cooperative agreements with land owners to fence off the areas from livestock; and, institute appropriate planting programs, as needed to replace vegetation. If necessary, install simple gravity flow pipeline systems to transport water from pool areas in the creek to water trough sites for cattle outside the riparian zone.
- 8-dc. Require proposed recreation or housing projects which utilize the shoreline and water resources of the Delta to create slough systems with significant riparian plant communities equal in size to the project area itself. Prohibit construction of barren waterways.
- 8-dd. Require large industrial projects and expansions in the coastal regions of Antioch and Pittsburg to preserve and, if necessary, create a riparian buffer zone of at least 100 feet between the high tide line and the development edge. Apply conditions of project approval that minimize any surface runoff or storm sewer outflows from contaminating the riparian buffer zones.
- 8-de. Require groundwater monitoring programs for all large-scale commercial and industrial facilities using wells.
- 8-df. Require proof of adequate groundwater in areas not served by municipal water purveyors. Require test wells or the establishment of community water systems in these areas. Deny discretionary applications unless a geologic report establishes that groundwater supplies

are adequate and will not be adversely impacted by the cumulative amount of additional development.

- 8-dg. Review and comment on projects and environmental documents that propose wastewater disposal methods which discharge into natural waterways. Request reclamation conservation and re-use programs to minimize discharges and protect water quality and aquifer recharge areas.
- 8-dh. Review of subdivisions using septic systems shall be conducted by the County's Environmental Health Department to ensure that leachates do not contaminate groundwater recharge areas. Consider on-site wastewater management districts in important recharge areas.
- 8-di. Actively pursue the abatement of failing septic systems near waterways.
- 8-dj. Encourage the construction of wastewater disposal systems designed to reclaim and re-use treated wastewater on agricultural crops, and for other irrigation and wildlife enhancement projects.

8.13 HARBORS

INTRODUCTION

The Port of Richmond is located at the western edge of Contra Costa County, approximately 9 miles east of the Golden Gate Bridge. The Port consists of an Outer Harbor about five miles in length, and an Inner Harbor, which covers a distance of about 3.75 miles in length. The Outer Harbor faces natural, deepwater in San Francisco Bay; the Inner Harbor has been dredged from deep water in San Francisco Bay through shallow flats and marshlands.

Port of Richmond facilities consist of piers, wharves and docks. Commodities handled at the Port include bulk liquids, bulk dry and scrap metal cargoes, gypsum rock, vehicles, and brake bulk. Container handling was initiated at a new Port of Richmond facility during the early 1980s. Annual tonnage handled by the Port during 1989 exceeded 301,000,000 short tons. Potential expansion plans propose importing approximately 200,000 to 500,000 tons of Nevada Cement annually at Port of Richmond Terminal B. The Port is also encouraging growth by pursuing additional accounts.

Several small craft and recreational harbors or marinas are located along San Francisco Bay, Carquinez Strait, Suisun Bay, and the Sacramento River within Contra Costa County. Commercial fishing vessels and pleasure craft are served by these.

HARBOR GOALS

- 8-Y. To promote safe, convenient and appropriate water transportation for Contra Costa County.
- 8-Z. To encourage the continued operation, orderly expansion and economic viability of harbor facilities within the County.

HARBORS POLICIES

- 8-95. Expansion of the Port of Richmond is recognized. Existing harbors or their facilities shall mitigate adverse environmental impacts on shoreline and marshland habitats within unincorporated areas of the County.
- 8-96. Land use activities in the immediate vicinity of harbors and adjacent facilities shall be compatible with the continued optimum commercial and recreational operations of the harbor.
- 8-97. The County shall oppose construction or operation of mooring facilities posing significant hazards or threats to Bay or Delta resources.

HARBOR IMPLEMENTATION MEASURES

- 8-dk. Encourage coordination between the Port of Richmond and other local, State and federal agencies to ensure that expansion does not adversely impact habitats.
- 8-dl. Review proposed port and marina expansion projects with regard to potential affects on shoreline and marshland habitat, along the Bay and Delta.

8.14 AIR RESOURCES

INTRODUCTION

Although not required by law, air quality considerations within a General Plan provide benefits in terms of improved local and regional air quality. There is no State or local agency with responsibility for air quality planning at the local level. The State Air Resources Board has Statewide responsibility for air quality, and the Bay Area Air Quality Management District has permitting authority for stationary air pollutant sources in the region. These agencies' participation in local land use planning is normally limited to commenting on Environmental Impact Reports.

Consideration of air quality planning at the local level has taken on a new importance in recent years. Since about 1970 continuous progress has been made in improving air quality in virtually all areas of the nation. Stringent controls on automobiles and stationary sources of air pollutants such as factories and refineries, as well as controls on area sources such as paints, solvents and gasoline stations have resulted in improved air quality despite increases in population, employment and vehicular traffic. These controls have not resulted in all air quality standards being attained in the Bay Area, however.

Past efforts at improving air quality have focused on "hardware" type solutions such as requiring pollution abatement equipment for industrial sources or requiring catalytic converters on new automobiles. The simplest and most cost-effective hardware-type air pollution control measures were those first implemented; future measures of this type will provide diminishing returns.

Local air quality planning offers another means of addressing the air pollution problem. Future air quality will be partially determined by local land use and transportation decisions. Judicious land use and transportation planning at the city and county level represents another means of improving air quality on both the local and regional scale. Such planning can keep a balance between growth rates and improvements to the transportation system, reduce long distance commuting, encourage and support non-auto transportation, and reduce future land use conflicts related to air pollution.

In a planning sense, air quality is closely related to several other areas within the General Plan. Listed below are other Elements of the Plan which contain policies and implementation measures that are consistent with efforts to improve air quality and are considered part of the Air Quality component of the General Plan.

- o Transportation and Circulation Element:
 - circulation phasing and coordination
 - roadway routing and design improvements
 - alternative transportation and circulation systems
- o Land Use Element:
 - jobs/housing balance, community boundaries (Urban Limit Line)

- growth management
 - standards for timing of growth with the Urban Limit Line
- o Safety Element:
- protection from hazardous materials

AIR RESOURCES MAPS AND ANALYSIS

Contra Costa County contains a multitude of air pollutant sources. Inventories of these sources have been prepared by the Bay Area Air Quality Management District, classifying sources as to type and strength. Table 8-5 lists an emissions inventory for Contra Costa County for five specific pollutants, known as "criteria" pollutants. Ambient air quality standards, set by both the federal and State government, exist for the "criteria" pollutants. Table 8-5 shows that automobiles are the largest source of each pollutant except for sulfur dioxide, which is primarily generated by petroleum refining and from power plants.

The concentrations of pollutants in the atmosphere are dependant not only on the amount of pollutant emitted, but on the ability of the atmosphere to transport and dilute the pollutant. Some pollutants, such as ozone, are not directly emitted to the atmosphere by any sources, but are the result of chemical reactions in the atmosphere between other pollutants. The chemical reaction that creates ozone in an urban atmosphere occurs between reactive organic gases (ROG) and oxides of nitrogen (NO_x) in the presence of sunshine. The rate of reaction is very dependent on sunlight and temperature, so ozone concentrations will depend on the strength of sunlight and the temperature as well as transport and dilution by the wind.

Figure 8-6 shows the frequency of wind direction and average wind speed by direction for four locations within or near Contra Costa County. Together with the pattern of pollutant emissions, the ventilation characteristics of the County determine the pattern of air quality within it.

The Bay Area Air Quality Management District operates a total of seven air monitoring sites within the County. Some of the monitoring sites measure multiple pollutants, some measure only a single pollutant. Shown in Figure 8-6 is a summary of air quality data for four locations in the County for the pollutants ozone and carbon monoxide. Data on particulate matter concentrations

TABLE 8-5
INVENTORY OF AIR POLLUTANT EMISSIONS
FOR CONTRA COSTA COUNTY

<u>Source</u>	<u>Emissions In Tons/Day</u>				
	<u>Part</u>	<u>ROG</u>	<u>NO_x</u>	<u>SO₂</u>	<u>CO</u>
<u>Petroleum Refining</u>					
Petroleum refining	1.4	0.1	6.3	18.5	0.1
Other refining processes	0.2	3.8	0.0	5.5	0.3
Combustion of fuels	1.9	0.8	30.6	13.9	3.3
Loading, storage and blending	0.0	7.9	0.0	0.0	0.0
Process leaks (fugitive)	0.0	16.2	0.0	0.0	0.0
<u>Chemical, Ind/Commercial Processes</u>					
Sulfur and sulfuric acid	0.1	0.1	0.0	3.7	1.6
Other chemical processes	1.1	0.5	1.0	0.1	31.3
Metallurgical and mineral	5.5	0.0	0.0	0.2	0.6
Construction and demolition	15.5	0.0	0.0	0.0	0.0
Gas distribution	0.0	6.4	0.0	0.0	0.0
Other industrial/commercial	5.3	3.3	2.3	3.2	0.0
<u>Organic Compounds Evaporation</u>					
Gasoline bulk plants	0.0	1.7	0.0	0.0	0.0
Gasoline filling stations	0.0	0.9	0.0	0.0	0.0
Architectural coating	0.0	5.4	0.0	0.0	0.0
Other surface coating	0.0	5.2	0.0	0.0	0.0
Solvent degreasing	0.0	0.6	0.0	0.0	0.0
Dry cleaners	0.0	0.8	0.0	0.0	0.0
Printing	0.0	0.8	0.0	0.0	0.0
Other organics evaporation	0.0	3.5	0.0	0.0	0.0
<u>Combustion</u>					
Domestic	3.4	1.3	2.9	0.1	16.6
Utilities - power plants	0.7	0.1	24.0	2.5	4.8
Cogeneration	0.2	0.2	6.9	0.2	1.9
Reciprocating engines	0.5	1.3	3.4	0.1	13.4
Other fuels combustion	0.2	0.1	5.6	0.9	0.8
Waste burning and incineration	0.2	0.1	0.3	0.0	0.4
<u>Off-Highway Mobile Sources</u>					
Farm and construction equipment	0.1	0.4	2.0	0.2	2.8
Ships, boats and locomotives	0.2	0.5	1.6	1.8	0.5
Pleasure boats	0.0	2.9	0.8	0.1	14.2

TABLE 8-5 (Continued)

<u>Source</u>	<u>Emissions In Tons/Day</u>				
	<u>Part</u>	<u>ROG</u>	<u>NO_x</u>	<u>SO₂</u>	<u>CO</u>
<u>Aircraft</u>					
Commercial aircraft	0.0	0.0	0.0	0.0	0.0
Military	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.2	0.1	0.0	4.1
<u>Motor Vehicles</u>					
Cars and light duty trucks	2.62	9.9	19.6	0.6	210.0
Medium and heavy duty gas. trucks	0.9	9.9	8.0	0.3	92.3
Diesel trucks and buses	1.4	1.5	8.7	1.4	3.8
Motorcycles	0.0	0.7	0.1	0.0	2.0
<u>Miscellaneous Emission Sources</u>					
Unplanned fires	0.1	0.1	0.0	0.0	0.9
Entrained road dust	53.2	0.0	0.0	0.0	0.0
Bio degeneration	0.0	1.3	0.0	0.0	0.0
Consumer solvent usage	0.0	6.0	0.0	0.0	0.0
Pesticides usage	0.0	0.6	0.0	0.0	0.0
Grand Total	94.6	114.5	124.2	53.3	405.7

PART = Particulates

ROG = Reactive Organic Gases (Hydrocarbons)

NO_x = Oxides of Nitrogen

SO₂ = Sulfur Dioxide

CO = Carbon Monoxide

are shown for the two locations where that pollutant is monitored. Concentrations of other pollutants such as sulfur dioxide, nitrogen dioxide, lead and hydrogen sulfide are also monitored regularly, but no violations of any State or federal standards have been recorded for these pollutants.

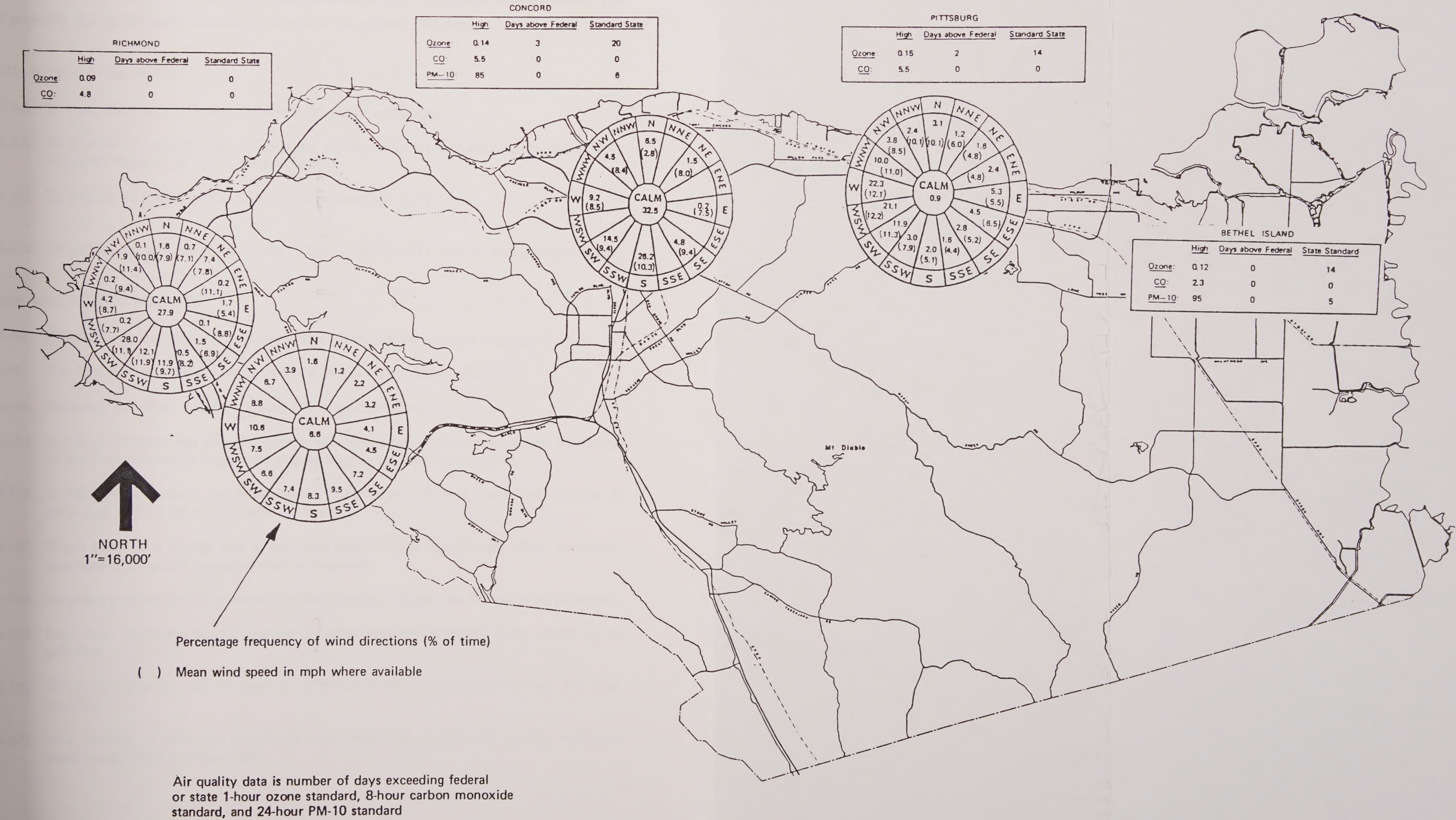
The western portions of the County show a very strong influence of winds through the Golden Gate. The prevailing wind directions at Berkeley and San Pablo reflect the direction to the Golden Gate: west at Berkeley and southwest at San Pablo. Ventilation in this area is very good, winds are persistent and strong and calms are relatively infrequent. Although heavily urbanized, this portion of the County has very good air quality due to the good ventilation characteristics, cool temperatures and lack of upwind sources of pollutants.

The wind data for the inland Diablo-San Ramon Valley shows a strong influence of terrain on wind. Winds are channeled by terrain, and the area is very sheltered, with relatively low average wind speeds and a very high frequency of calm conditions. The potential for air pollution in this area is high because of reduced ventilation and warm temperatures which promote the formation of ozone. This area is also downwind from the highly urbanized areas of western Contra Costa and Alameda counties. As a result, ozone levels exceed the federal ambient air quality standard a few days each year. The standard for carbon monoxide is not exceeded, but the State particulate (PM10) standard is exceeded several days per year.

The northern portions of the County from the Carquinez Straits eastward along the Sacramento River have good ventilation characteristics. The area is exposed to winds both from the west and east, and terrain provides little protection from the wind. Average windspeeds as measured in Pittsburg are relatively high and calm conditions are quite infrequent. This area contains a large portion of the industrial sources of pollutants within the County, and is located downwind of both the greater Bay Area and the Diablo Valley. As a result ozone levels exceed both the State and federal standards.

The eastern portions of the County are generally well ventilated by winds flowing through the Carquinez Straits and Delta. Terrain does not restrict ventilation, but temperatures are quite warm, promoting the formation of ozone. This portion of the County is very lightly urbanized,

Figure 8-6 Air Quality



but ozone levels at Bethel Island indicate that violations of the State ozone standard occur. This is primarily due to the area's location downwind of the greater Bay Area.

AIR RESOURCES GOALS

- 8-AA. To meet Federal Air Quality Standards for all air pollutants.
- 8-AB. To continue to support federal, State and regional efforts to reduce air pollution in order to protect human and environmental health.
- 8-AC. To restore air quality in the area to a more healthful level.
- 8-AD. To reduce the percentage of Average Daily Traffic (ADT) trips occurring at peak hours.

AIR RESOURCES POLICIES

- 8-98. Development and roadway improvements shall be phased to avoid congestion.
- 8-99. The free flow of vehicular traffic shall be facilitated on major arterials.
- 8-100. Vehicular emissions shall be reduced throughout the County.
- 8-101. A safe, convenient and effective bicycle and trail system shall be created and maintained to encourage increased bicycle use and walking as alternatives to driving.
- 8-102. A safe and convenient pedestrian system shall be created and maintained in order to encourage walking as an alternative to driving.
- 8-103. When there is a finding that a proposed project might significantly affect air quality, appropriate mitigation measures shall be imposed.
- 8-104. Proposed projects shall be reviewed for their potential to generate hazardous air pollutants.
- 8-105. Land uses which are sensitive to air pollution shall be separated from sources of air pollution.
- 8-106. Air quality planning efforts shall be coordinated with other local, regional and State agencies.
- 8-107. New housing in infill and peripheral areas which are adjacent to existing residential development shall be encouraged.

AIR RESOURCES IMPLEMENTATION MEASURES

Development Review Process

- 8-dm. Review major development applications for consistency with regional air quality plan assumptions.
- 8-dn. Review major development applications to ensure that buffer zones are provided between major air pollution sources (freeways, industry, etc.) or sources of hazardous pollutants and sensitive receptors such as hospitals, convalescent homes and residences.
- 8-do. Consistent with the uses and ranges of density specified in this plan, particularly those in the Land Use Element and the Growth Management Element, encourage development that would reduce long distance commuting, positively affect the desired jobs/housing balance or promote alternative forms of transportation.
- 8-dp. In addition to improving the jobs/housing balance, an effort to fill jobs in the County with County residents through "local hire" policies could be encouraged. Job training programs for County residents should be tailored to local jobs.
- 8-dq. Review proposed development to encourage maximum use of bicycle, pedestrian and transit modes of transportation.

Intergovernmental Coordination

- 8-dr. Support efforts at the State and regional level to enact legislation providing for stricter controls on mobile, stationary and area sources of air pollutants.
- 8-ds. Cooperate with the Association of Bay Area Governments (ABAG), Bay Area Air Quality Management District (BAAQMD), and Metropolitan Transportation Commission (MTC) in future regional air quality planning efforts.

1. Larry Soenen, District Conservationist, U.S. Department of Agriculture, Soil Conservation Service. Telephone communication, October 9, 1990.

2. The U.S. Soil Conservation Service classifies soils on a scale from I to VIII based on agricultural suitability and limitations for cultivation. The factors considered in determining soils classes include degree of slope, depth to bedrock, water holding capacity, natural drainage and tendency to flood, risk of erosion, and soil chemistry. Class I and Class II soils are considered prime soils for agriculture. In addition, certain Class III soils, though not technically "prime", are very good for certain types of crops. See U.S. Soil Conservation Service, Soil Survey of Contra Costa County, (1977).

3. U.S. Soil Conservation Service, Soil Survey of Contra Costa County, 1977, page 20, 28-29, and 43-44.

The rangelands of Contra Costa and the other counties in the San Francisco Bay region (mostly Class IV and VI) are considered to be some of the finest grazing lands in the nation. Because of the fog, livestock can be grazed on the land for a longer portion of the year eliminating much of the need for imported fodder. In the Central Valley and the foothills of the Sierra, it may take twenty acres of range to support one cow and her calf; in the East Bay hills, as little as six acres, according to People for Open Space, Endangered Harvest, 1980, pages 14-15.

9. OPEN SPACE ELEMENT

TABLE OF CONTENTS

	<u>Page</u>
9.1 INTRODUCTION	9-1
Legal Authority	9-2
9.2 RELATIONSHIP TO OTHER GENERAL PLAN ELEMENTS	9-3
9.3 RELATIONSHIP TO OTHER GENERAL PLAN DOCUMENTS	9-4
9.4 OPEN SPACE ELEMENT ORGANIZATION	9-4
9.5 OVERALL GOALS AND POLICIES	9-4
Overall Open Space Goals	9-4
9.6 SCENIC RESOURCES	9-5
Introduction	9-5
Scenic Resource Area Map	9-7
Goals	9-7
Policies	9-8
Implementation Measures	9-11
9.7 HISTORIC AND CULTURAL RESOURCES	9-12
Introduction	9-12
Map of Historic and Cultural Resource Areas	9-12
Goals	9-17
Policies	9-17
Implementation Measures	9-17
9.8 PARKS AND RECREATION	9-18
Introduction	9-18
Goals	9-34
Policies	9-34
Implementation Measures	9-37

9. OPEN SPACE ELEMENT

9.1 INTRODUCTION

Contra Costa County is bestowed with a wide variety of natural and cultural resources which are currently held publicly or privately as open space. Natural open space areas include woods, mountains, lakes, streams, wetlands, and agricultural land. Scenic resources, parks and recreation land are also considered open space lands. Furthermore, the County has important historic and archaeological sites which qualify as resources and which should be preserved.

The Open Space Element of the General Plan has three major components: (1) a policy framework for the preservation of open space lands, (2) an open space map identifying County lands subject to the policies contained herein, and (3) an implementation program.

Natural resources, including Agricultural Resources, are discussed under the Conservation Element of the County's General Plan (Chapter 8). The Open Space Element analyzes open space classified as Scenic Resources, Outdoor Recreation, and Historic/Cultural Resources.

As in the case with the preservation of natural resources and agricultural resources, the Open Space Element is significantly affected by policies reflected in Measure C -1990. These policies, found throughout this General Plan, include the 65/35 Preservation Standard, the Urban Limit Line, hillside protection policies, preservation agreements and the policy to advise LAFCO to respect and support the County's 65/35 Preservation Standard, ULL, and growth management standard when considering requests for incorporation or annexation to cities or service districts.

The ULL works together with the 65/35 Preservation Standard to protect open space. Criteria for considering the location of the ULL includes open space, parks and other recreation areas, lands with slopes with a grade of 26 percent or greater, wetlands and certain other areas not appropriate

for urban growth. Even if land is developed within the ULL, a substantial portion is to be retained for open space, parks and recreational uses.

LEGAL AUTHORITY

This chapter of the Contra Costa County General Plan encompasses many diverse issues dealing with the preservation and management of open space areas in the County. The chapter covers the issues required by the State General Plan laws to be addressed.

The legal requirements for the Open Space Element are included in Section 65560 et. seq. and 65302 (e) of the California Government Code. The Open Space Element is a plan for the comprehensive and long-range preservation and conservation of "open space land." "Open space land" is defined in the statutes as any area of land or water which is essentially unimproved and devoted to an open space use and which is designated on a local, regional or State open space plan as open space for the preservation of natural resources, the managed production of resources, outdoor recreation, or for public health and safety.

In adopting the requirement that all jurisdictions must prepare an Open Space Element, the Legislature found that the preservation of open space land is necessary not only for the maintenance of the economy of the State, but also for the continued availability of land for the production of food and fiber, for the enjoyment of scenic beauty, for recreation, and for the use of natural resources. The legislature further found that discouraging premature and unnecessary conversion of open space land to urban uses is in the public interest because it discourages non-contiguous development patterns which tend to increase the costs of community services to community residents. Finally, the legislature found that the anticipated increase in the population of the State demands that cities, counties, and the State make plans at the earliest possible date for the preservation of valuable open space land and take positive action to carry out such plans by the adoption and strict administration of laws, ordinances, rules and regulations.

Government Code Section 65564 requires that every local open space plan contain an action program consisting of the specific programs which the legislative body intends to pursue in implementing its open space plan. That action program is described in the implementation

measures contained in this chapter and in the conservation element and in the CEQA mitigation monitoring program adopted concurrently with this General Plan.

9.2 RELATIONSHIP TO OTHER GENERAL PLAN ELEMENTS

The Open Space Element is related to other elements of the General Plan and has equal legal status with all other sections of the Plan.

The Open Space Element is closely related to the Conservation Element of the General Plan and is coordinated with that element. Primary impacts of the Open Space Element are expected on land use policies, and in view of the interplay with the ULL and 65/35 Preservation Standard the element is coordinated with the Land Use Element. In addition, the Open Space Element is related to the Public Facilities/Services Element and in that open space areas are designated based partly on seismic and landslide risk.

With reference to the Land Use Element Map, the following map designations and their respective map symbols are considered to be open space designations within the definition contained in the State statute:

- o Open Space (OS)
- o Parks and Recreation (PR)
- o Agricultural Lands (AL)
- o Agricultural Core (AC)
- o Delta Recreation (DR)
- o Watershed (WS)
- o Water (WA)

Lands outside the Urban Limit Line may be designated for landfills with the LF designation. LF is not an open space designation pursuant to the state open space planning statute, Government Code Sections 65560-65570, although LF lands may be surrounded by open space lands. Landfills are public purpose facilities, which are defined as non-urban uses in the Board of Supervisors' 65/35 Land Preservation Plan, adopted by the County's voters as Measure C in November 1990. Facilities for public purposes are allowed outside the Urban Limit Line. The LF designation is consistent with, and implements, this provision of the 65/35 plan. The LF designations in this plan

also implement the voters' decisions in approving Measure C in June 1990 (the Keller Canyon referendum) and rejecting Measure E in November 1990 (the Marsh Canyon initiative).

9.3 RELATIONSHIP TO OTHER GENERAL PLAN DOCUMENTS

The goals, policies and implementation measures contained in this element are intended to guide planning for public and private projects that are subject either to approval of the County planning agency, or to review by County staff, although they may be under the jurisdiction of other public agencies operating in the County. Such goals, policies and implementation measures are intended to accord with the other elements of the General Plan, and have equal legal status with all other sections of the Plan.

9.4 OPEN SPACE ELEMENT ORGANIZATION

This chapter of the General Plan is divided into three sections that present background information, policies, maps, and implementation measures regarding:

- o scenic resources, including scenic ridges, hillsides and rock outcroppings; and, the San Francisco Bay/Delta estuary system;
- o historic and cultural resources;
- o parks and recreation, including local parks, trails and paths, and private recreational facilities.

9.5 OVERALL GOALS AND POLICIES

The following goals and policies are overall statements regarding the need to preserve and efficiently manage open space within the County. More detailed policies particular to each type of resource are discussed under separate topic sections in the Conservation Element of the General Plan.

OVERALL OPEN SPACE GOALS

- 9-A. To preserve and protect the ecological, scenic and cultural/historic, and recreational resource lands of the County.
- 9-B. To conserve the open space and natural resources of the County through control of the direction, extent and timing of urban growth.

- 9-C. To achieve a balance of open space and urban areas to meet the social, environmental and economic needs of the County now and for the future.

OVERALL OPEN SPACE POLICIES

- 9-1. Permanent open space shall be provided within the County for a variety of open space uses.
- 9-2. Historic and scenic features, watersheds, natural waterways, and areas important for the maintenance of natural vegetation and wildlife populations shall be preserved and enhanced.
- 9-3. Areas designated for open space shall not be considered as a reserve for urban land uses. In accordance with Measure C - 1990, at least 65 percent of all land in the County shall be preserved for agriculture, open space, wetlands, parks and non-urban uses.
- 9-4. Where feasible and desirable, major open space components shall be combined and linked to form a visual and physical system in the County.
- 9-5. The visual identities of urban communities shall be preserved through the maintenance of existing open space areas between cities and/or communities.
- 9-6. Open space acquisition shall be planned and funded, in concert with the region's staged transportation, landfill, and water and sewage plant and programs.
- 9-7. Open space shall be utilized for public safety, resource conservation and appropriate recreation activities for all segments of the community.
- 9-8. Development project environmental review will consider the effect of the project on the County's open space resources, whenever the project proposes to convert substantial amounts of land from an open space designation to an urban development designation.
- 9-9. The County shall preserve open space lands located outside the Urban Limit Line by declining to authorize requests for general plan amendment studies which would result in redesignation of such lands to urban land use designations. The County shall not designate any open space land located outside the ULL for an urban use. A substantial portion of land developed within the ULL shall be retained for open space, parks and recreational uses.

9.6 SCENIC RESOURCES

INTRODUCTION

Contra Costa County is perceived by many as a desirable place to live and work. A major component in that perception is the scenic vistas which are available throughout the County. While there are many localized scenic features in the County, there are two main resources which

are treated in this section: (1) scenic ridges, hillsides and rock outcroppings; and (2) the San Francisco Bay/Delta estuary system.

Throughout much of Contra Costa County, there are significant topographic variations in the landscape. The largest and most prominent of these hills form the backdrop for much of the developed portions of the area. Views of these major ridgelines help to reinforce the rural feeling of the County's rapidly growing communities. These major ridges provide an important balance to current and planned development.

Individual home sites or housing tracts are sometimes constructed on ridge tops in such a way that the scenic views from the site are superb, but the view of the ridge to all others, including other property owners, is adversely affected. This can occur if the proposed structures are poorly placed or if the accompanying landscaping is completely unrelated to the natural setting of the surrounding properties. In addition, other features of the development such as roads, power lines and storage tanks can degrade the scenic quality of an area if they are not carefully designed, located and landscaped.

Properties with scenic resources which are already designated for open space use should be protected through strict land regulations and, on occasion, through acquisition.

For scenic areas that are planned for some amount of development, the application review process shall consider the feasibility of preserving or protecting the scenic qualities of the site. The County planning agency shall be responsible for determining the extent and practicality of preserving such resources. The preparation of environmental impact reports can often help to analyze the significance of previously unidentified opportunities. Whenever it is determined to be feasible, scenic features should be protected and maintained, either through land dedication to a public agency or the granting of scenic easements.

On the other hand, there are man-made facilities, such as non-conforming signs and overhead utility lines, which are unattractive and should be eliminated or abated to enhance the scenic qualities of specific areas in the County.

The other major scenic resource of Contra Costa County is the extensive water and delta system of San Francisco, San Pablo, and Suisun Bays. The bays extend along the entire western and northern perimeter of the County. This waterway system provides a pleasant contrast to the land forms of the area. Where the water reaches the shoreline, a mix of land uses occur: salt marshes, railroad tracks, industrial activities, housing and parkland. All add to the diversity and interest of the shoreline.

Appropriate land uses for the shoreline areas are indicated on the Land Use Element map. All new uses along the shoreline should be reviewed for their impact on the visual and scenic aspects of the bay. Efforts should be made to require quality design. The Scenic Waterways designation on the Scenic Resources map below applies to the waterway and its shoreline; the intent of the designation is to draw attention to its scenic character for consideration when reviewing projects.

SCENIC RESOURCE AREA MAP

Figure 9-1 identifies the major scenic resources in the County, including major ridges and scenic waterways, which should be considered when evaluating nearby development proposals.

The County has many smaller, localized scenic resources such as isolated hilltops, rock outcroppings, mature stands of trees, lakes, reservoirs and other natural features. These smaller resource areas are not identified on the map, but they should be reviewed on a case-by-case basis to determine their visual quality. All of these scenic resources should be treated as aesthetic opportunities which should be incorporated into the design of any new development.

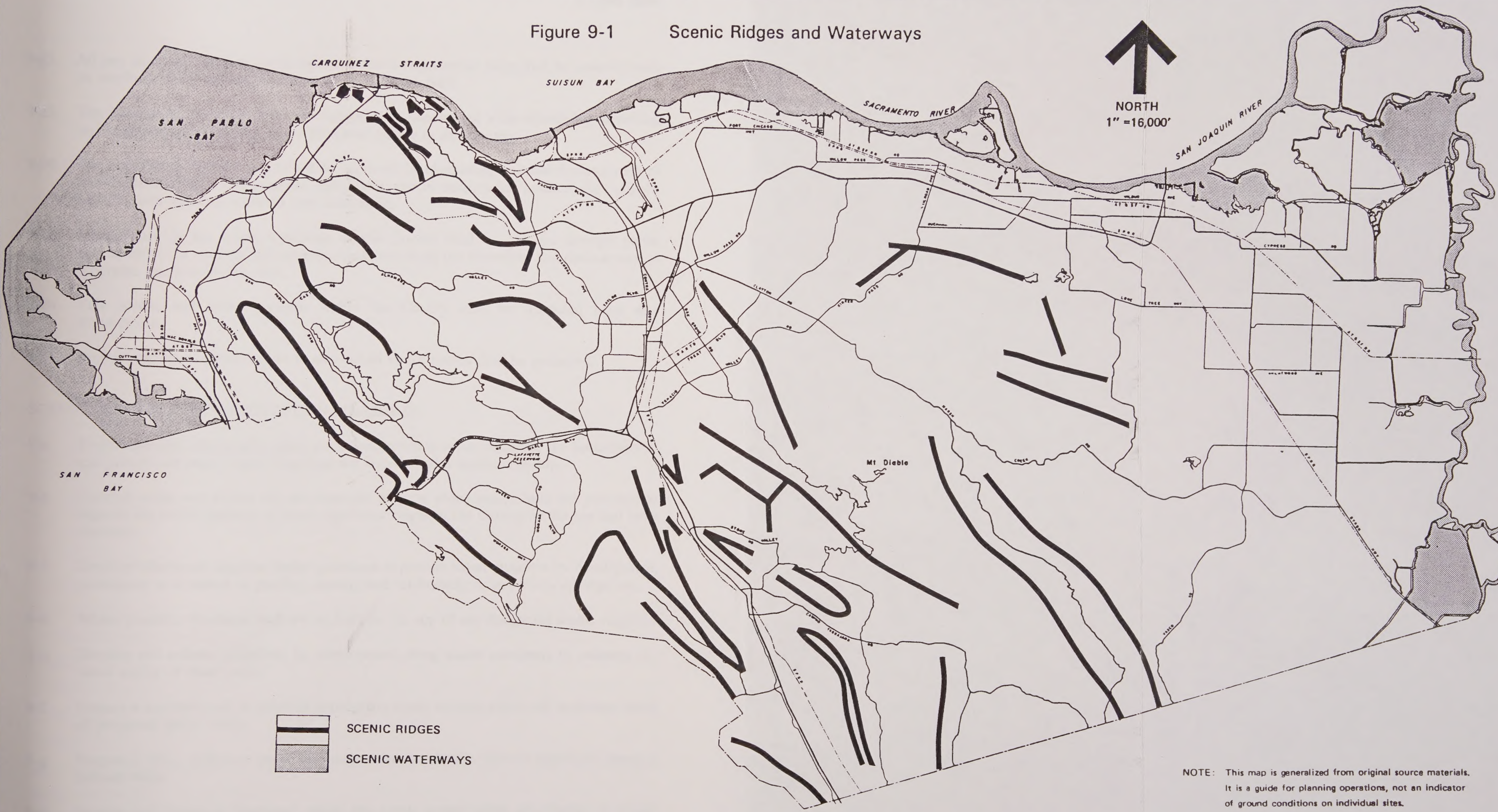
SCENIC RESOURCES GOALS

- 9-D. To preserve and protect areas of identified high scenic value, where practical, and in accordance with the Land Use Element map.
- 9-E. To protect major scenic ridges, to the extent practical, from structures, roadways, or other activities which would harm their scenic qualities.
- 9-F. To preserve the scenic qualities of the San Francisco Bay/Delta estuary system and the Sacramento-San Joaquin River/Delta shoreline.

SCENIC RESOURCES POLICIES

- 9-10. In areas designated for urban development, the principles outlined below shall be applied in the review of development proposals.
- 9-11. High quality engineering of slopes shall be required to avoid soil erosion, downstream flooding, slope failure, loss of vegetative cover, high maintenance costs, property damages, and damages to visual quality. Particularly vulnerable areas should be avoided for urban development. Slopes of 26 percent or more shall be protected and are generally not desirable for conventional cut-and-fill pad development. Development on open hillsides and significant ridgelines shall be restricted.
- 9-12. In order to conserve the scenic beauty of the County, developers shall generally be required to restore the natural contours and vegetation of the land after grading and other land disturbances. Public and private projects shall be designed to minimize damages to significant trees and other visual landmarks.
- 9-13. Providing public facilities for outdoor recreation should remain an important land use objective in the County, as a method of promoting high scenic quality, for air quality maintenance, and to enhance outdoor recreation opportunities of all residents.
- 9-14. Extreme topographic modification, such as filling in canyons or removing hilltops, shall be avoided. Clustering and planned unit development approaches to development shall be encouraged. All future development plans, whether large or small scale, shall be based on identifying safe and suitable sites for buildings, roads and driveways. Exemptions to this policy are appropriate for mining, landfill, and public projects in open space areas.
- 9-15. In areas along major scenic ridges which are designated for open space use, the principles outlined in Policy 9-19 through Policy 9-26 shall apply.
- 9-16. New water tanks that would harm the visual quality of a scenic ridge shall be buried, camouflaged or screened to mitigate their impacts.
- 9-17. New power lines shall be located parallel to existing lines in order to minimize their visual impact.
- 9-18. The construction of new structures on the top of major scenic ridges or within 50 feet of the ridgeline shall be discouraged.
- 9-19. When development is permitted to occur on hillsides, structures shall be located in a manner which is sensitive to available natural resources and constraints.
- 9-20. Hilltops, ridges, rock outcroppings, mature stands of trees, and other natural features shall be considered for preservation, at the time that any development applications are reviewed.
- 9-21. Any new development shall be encouraged to generally conform with natural contours to avoid excessive grading.

Figure 9-1 Scenic Ridges and Waterways



NOTE: This map is generalized from original source materials. It is a guide for planning operations, not an indicator of ground conditions on individual sites.

CONTRA COSTA COUNTY CALIFORNIA

- 9-22. All new land uses which are to be located below a major scenic ridge shall be reviewed with an emphasis on protecting the visual qualities of the ridge.
- 9-23. The involvement of public interest groups shall be encouraged when identifying, acquiring, and maintaining those areas of unique visual quality in the County.
- 9-24. The appearance of the County shall be improved by eliminating negative features such as non-conforming signs and overhead utility lines, and by encouraging aesthetically designed facilities with adequate setbacks and landscaping.
- 9-25. Maintenance of the scenic waterways of the County shall be ensured through public protection of the marshes and riparian vegetation along the shorelines and delta levees, as otherwise specified in this plan.
- 9-26. Tule islands and levee remnants within the County shall be restricted from new development.
- 9-27. Physical and visual public access to established scenic routes shall be protected.

SCENIC RESOURCE IMPLEMENTATION MEASURES

- 9-a. Prepare specific plans and/or adopt an ordinance which would delineate the boundaries of and protect the major scenic ridgelines not already under public ownership.
- 9-b. Carefully study and review any development projects which would have the potential to degrade the scenic qualities of major significant ridges in the County or the bay and delta shoreline.
- 9-c. Develop hillside and ridgeline design guidelines to provide better guidance for development, particularly as it relates to grading, massing and relationship of structures to ridgelines.
- 9-d. Where possible, structures shall not be built on the top of any designated scenic ridgeline.
- 9-e. Develop and enforce guidelines for development along scenic waterways to maintain the visual quality of these areas.
- 9-f. Prepare a corridor study in which an appropriate scenic corridor width will be defined along all proposed scenic routes.
- 9-g. Prepare a visual analysis of proposed scenic routes to identify views of significant visual or cultural value.
- 9-h. Identify and designate "gateways" within the scenic routes which are located at unique transition points in topography or land use and serve as entrances to regions of the County.

9.7 HISTORIC AND CULTURAL RESOURCES

INTRODUCTION

Northern California has been occupied for at least the last 10,000 years. The early inhabitants have been identified as the Paleo Indians who were nomadic, using primarily large pointed tools for hunting and collecting seafood. It is assumed that the Bay Area was inhabited from 5,000 to 10,000 BP (before present); however, no sites have been identified.

With the sea level stabilizing, the Bay and Delta were substantially formed. The subsistence pattern of the early inhabitants shifted with emphasis placed on acorn processing and hunting. Trade increased and tools and ornaments were more abundant as well as refined. Between 2,000 and 5,000 BP, cultural patterns were established in large villages along the shoreline and inland permanent streams throughout the Bay Area. The population grew rapidly and a complex society developed.

The beginning of the cultures that were in place at contact with the Spanish was approximately 1,500 B.P. This period saw the continuation of the growth of economic specialization and the introduction of the bow and arrow. The three groups that inhabited Contra Costa County, the Coastanoan (Ohlone), Bay Miwok and the Northern Valley Yokuts, established their territorial boundaries. Prehistoric evidence indicates that perhaps the Yokuts were the last to arrive in the Bay Area.

The Coastanoans inhabited the western hills, plains and the Bayshore from Carquinez south to Salinas. All of the village sites were associated with a permanent source of fresh water. Many were at the mouth of streams along the Bayshore, but a number of villages were established inland along permanent streams at the base of the hills at the 50 to 150 meter elevation, as evidenced by the many sites which have been identified. Special use and seasonal use sites were established throughout the Coastanoan territory, often in association with rock outcrops or abundant food sources.

The Bay Miwok settled along the western slopes of the Diablo range, the inland valleys and on the northern coastal plains. Their largest villages were located in the San Ramon Valley. The Northern Valley Yokuts settled along the eastern slopes of the Diablo range to the San Joaquin

River. Their primary villages were along the San Joaquin River with only scattered use of the eastern plains and smaller secondary villages in the inland valleys. In 1776 Mission Dolores was established in San Francisco. Cultural subjugation, plagues and the subdivision of the area into ranches largely destroyed Native American lifestyles.

Historical sites and landmarks are unique reminders of the social, economic and political history of Contra Costa County and may serve as sources of private investment and places of public recreational and educational activities. There are many local historical societies and organizations within the County which have been organized to preserve sites, structures and natural features which exemplify aspects of the history of a particular area of the County as a whole. These groups play an active role in increasing the level of appreciation and awareness of the County's many historical resources.

Many historical structures in the County are also listed on the National Register of Historic Places, as well as with the State of California Office of Historic Preservation. Many communities have also established architectural standards or forms of regulation or controls, such as zoning, which require preservation of historical structures and landmarks during the development process.

MAP OF HISTORIC AND CULTURAL RESOURCE AREAS

Archaeological Resources

A systematic archaeological survey has not been conducted for Contra Costa County. There are, however, approximately 600 archaeological sites within the County which have been recorded with the Archaeological Inventory, Northwest Information Center at Sonoma State University. Identification of these archaeological sites is largely the result of sporadic surveys conducted in association with development proposals. Large areas of the County that have been retained in agriculture have never been surveyed and may yield prehistoric settlement patterns.

An archaeological sensitivity map has been prepared (see Figure 9-2). This map conceptually illustrates areas of varying archaeological sensitivity within the County and is intended to be used as a planning tool for determining future survey requirements imposed upon development applications.

The sensitivity map has been divided into five categories: (1) extremely sensitive (known sites); (2) highly sensitive (high probability for potential sites); (3) medium sensitivity (possible sites); (4) moderately sensitive (higher probability of subsurface resources, due to deposition); and (5) low sensitivity (mainly the ridgetops). These categories and the reasons for designation are described below.

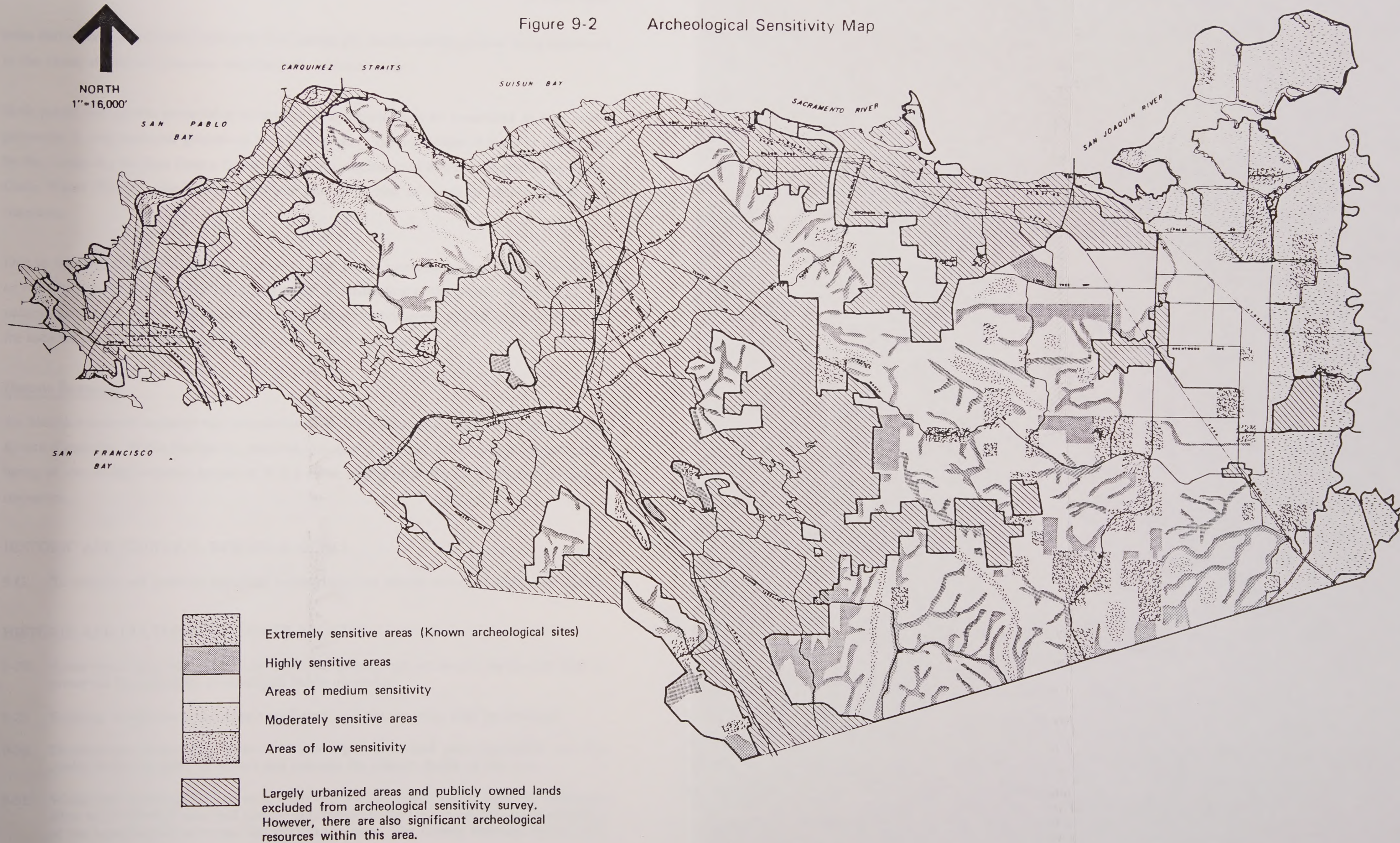
As indicated previously, over 600 sites have been identified in Contra Costa County and wherever these sites have been located, an extremely sensitive designation has been applied. Areas nearwater are considered most likely to contain an archaeological site(s) and have been designated as highly sensitive. This designation includes stream courses because the native groups would have establish settlements or seasonal sites along permanent and seasonal streams. Thus the streams provide potential prehistoric and historic resources.

Accessible areas near water were designated to have medium sensitivity. This includes the plains areas between two stream corridors. These areas were used for hunting, butchering camps, hunting blinds or food processing sites. The next level of sensitivity, identified as moderately sensitive, generally encompasses the plains and Delta area. This category is divided into two areas: an area showing surface manifestation of use and an area where indications of prehistoric use would most likely be buried. Because of the deposition that has occurred in this part of the County, subsurface monitoring should be conducted as a condition of project approval.

The areas designated as low sensitivity may contain special use sites and would not require as intense an archaeological reconnaissance as required with the above categories. However, as a condition of project approval for projects proposed in this designated area, a reconnaissance should be conducted. This would entail an archaeologist to scan a site for outcrops, caves, quarries, etc., which may have the potential to yield further information.

Substantial areas within Southeast County have been identified by various governmental agencies and knowledgeable individuals as containing both unique biological habitats, scenic values, and significant archeological resources. Specifically, on privately owned land east of Vasco Road caves have been created by the wind in sandstone cliffs overlooking the San Joaquin Valley. These caves were used by some of the County's earliest inhabitants, and valuable Native American artifacts have

Figure 9-2 Archeological Sensitivity Map



been discovered. In particular, well-preserved petroglyphs (Indian paintings) have been discovered in the caves, as well as numerous middens in the adjacent area.

Both public and private stewardship of the resources on-site shall be considered as long as the protection is long term and guaranteed in some manner. The acquisition of lands in these areas by the County for the East Contra Costa Airport, and acquisition of watershed lands by the Contra Costa Water District, may aid in the permanent protection of some of these archeological resources.

Due to the fragile nature of some of these resources, public access to the areas should be limited or restricted in some cases. To facilitate a better understanding of the unique archeological and natural resources in the area, a detailed inventory should be prepared. Efforts to secure financing for such an effort should be explored upon adoption of this plan.

Historic Resources

An historic resources inventory was compiled in 1976 by the County in coordination with the local historical societies. While the historic resources inventory is not considered to be a comprehensive listing of the county's historic resources, it is a major starting point for the protection of historic resources.

HISTORIC AND CULTURAL RESOURCE GOALS

9-G. To identify and preserve important archaeologic and historic resources within the County.

HISTORIC AND CULTURAL RESOURCE POLICIES

- 9-28. Areas which have identifiable and important archaeologic or historic significance shall be preserved for such uses, preferably in public ownership.
- 9-29. Buildings or structures that have visual merit and historic value shall be protected.
- 9-30. Development surrounding areas of historic significance shall have compatible and high quality design in order to protect and enhance the historic quality of the area.
- 9-31. Within the Southeast County area, applicants for subdivision or for land use permits to allow non-residential uses shall provide information to the County on the nature and extent of the archeological resources that exist in the area. The County Planning Agency shall

be responsible for determining the balance between the multiple use of the land with the protection of resources.

HISTORIC AND CULTURAL RESOURCE IMPLEMENTATION MEASURES

Development Review Process

- 9-i. Develop an archaeological sensitivity map to be used by staff in the environmental review process for discretionary permits to determine potential impacts upon cultural resources.
- 9-j. As a condition of approval of discretionary permits, include a procedure to be followed in the event that archaeological resources are encountered during development or construction.

Ordinance Revisions

- 9-k. Review existing County ordinances and guidelines and make amendments as necessary to ensure that they provide adequate safeguards for archaeological and historic resources.
- 9-l. Develop design guidelines for areas adjacent to or within scenic corridors or historic sites.

Other Programs

- 9-m. Promote the use of the State of California Historic Building Code to protect historic sites in the County.
- 9-n. Encourage owners of eligible historic properties to apply for State and federal registration of these sites and to participate in tax incentive programs for historic restoration.
- 9-o. Seek coordination and cooperation with federal, State, and local governments, and with private and non-profit organizations, to establish funding sources to preserve, restore, and enhance unique historic sites. Such funding sources may be used to acquire and preserve sites or to acquire easements over sites and building facades.
- 9-p. Identify funding mechanisms, including funding from the County to the extent possible, to support programs to preserve, restore, and enhance unique historic sites.

9.8 PARK AND RECREATION FACILITIES

INTRODUCTION

A recreation component of the General Plan is required to plan for the recreational lands and facilities necessary to meet the needs and desires of the community, while coordinating these plans

with the other elements. State law requires that a recreation component be adopted for a jurisdiction to be able to exercise a subdivision parkland dedication ordinance.

Maps and Descriptions of Parks and Recreation Facilities

This parks and recreation plan is divided into separate sections addressing major parks and open space areas, local parks, and trails.

Major Parks and Open Space Areas. The provision of major parks to serve the urbanized areas is essential to the physical and mental well-being of all segments of their populations, as these parks form alternatives to the often intense pace of urban life. Major parks provide areas where people can enjoy active and passive recreation not otherwise available, such as nature studies, camping, or just observing the natural landscape.

The preservation of lands for outdoor recreation also assists in the conservation of the County's unique natural, scenic, or cultural resources. Such preservation provides for recreational opportunities while helping to maintain the quality of life for county residents and visitors. Major park facilities in the County are owned by the federal and State governments, along with an extensive system operated by the East Bay Regional Park District. Additionally, there are some municipal facilities which are major parks. For the purpose of this portion of the Plan, the following definitions shall apply:

Major Parks are intended to provide a broad range of recreational opportunities, which may include hiking, bicycling, equestrian use, fishing, swimming, camping or group sports, etc. Preservation of historical structures also is included within this grouping.

Major Open Space Areas are lands within public ownership of significant undeveloped areas. The major purpose of these areas is to protect the uniqueness of these lands through passive recreational activities that do not require substantial facilities or improvements. Agriculture is an appropriate secondary use.

The existing and proposed Major Parks and Major Open Space Areas are shown on Figure 9-3. While major parks usually cover areas over 100 acres, shoreline and marsh areas may be much smaller, reflecting the unique areas they protect. With recent voter approval of State and regional park bonds, this plan anticipates the expansion of existing major park and open space facilities.

The two primary agencies administering major parks in the County are the State Department of Parks and Recreation and the East Bay Regional Park District. The State Department of Parks and Recreation operates two parks, Mt. Diablo State Park and Franks Tract State Recreation Area. These parks are intended to serve the population of the State as a whole, not just residents of Contra Costa County.

The East Bay Regional Park District encompasses all of Contra Costa County and most of Alameda County. The district currently maintains 26 parks within or potentially within the County, performing the function of providing major park facilities which is normally undertaken by County government. They maintain parks in differing types which are classified as Regional Parks, Regional Preserves, Regional Recreation areas, Regional Shorelines, Regional Wilderness Areas and Regional Open Spaces. These facilities are included within the major parks definition, except for the Regional Open Spaces, Regional Preserves, and Regional Wilderness Areas, which are included within the Major Open Space Area definition.

There are other agencies which operate major park facilities within the County. The U.S. National Park Service operates the John Muir National Historic Site in Martinez and the Tao House in Danville. The East Bay Municipal Utilities District owns substantial acreage of open space lands, some of which has a secondary recreation function, e.g., Lafayette and San Pablo Reservoirs. Additionally, the cities of Pittsburg, Walnut Creek and Concord operate facilities which serve a major park function.

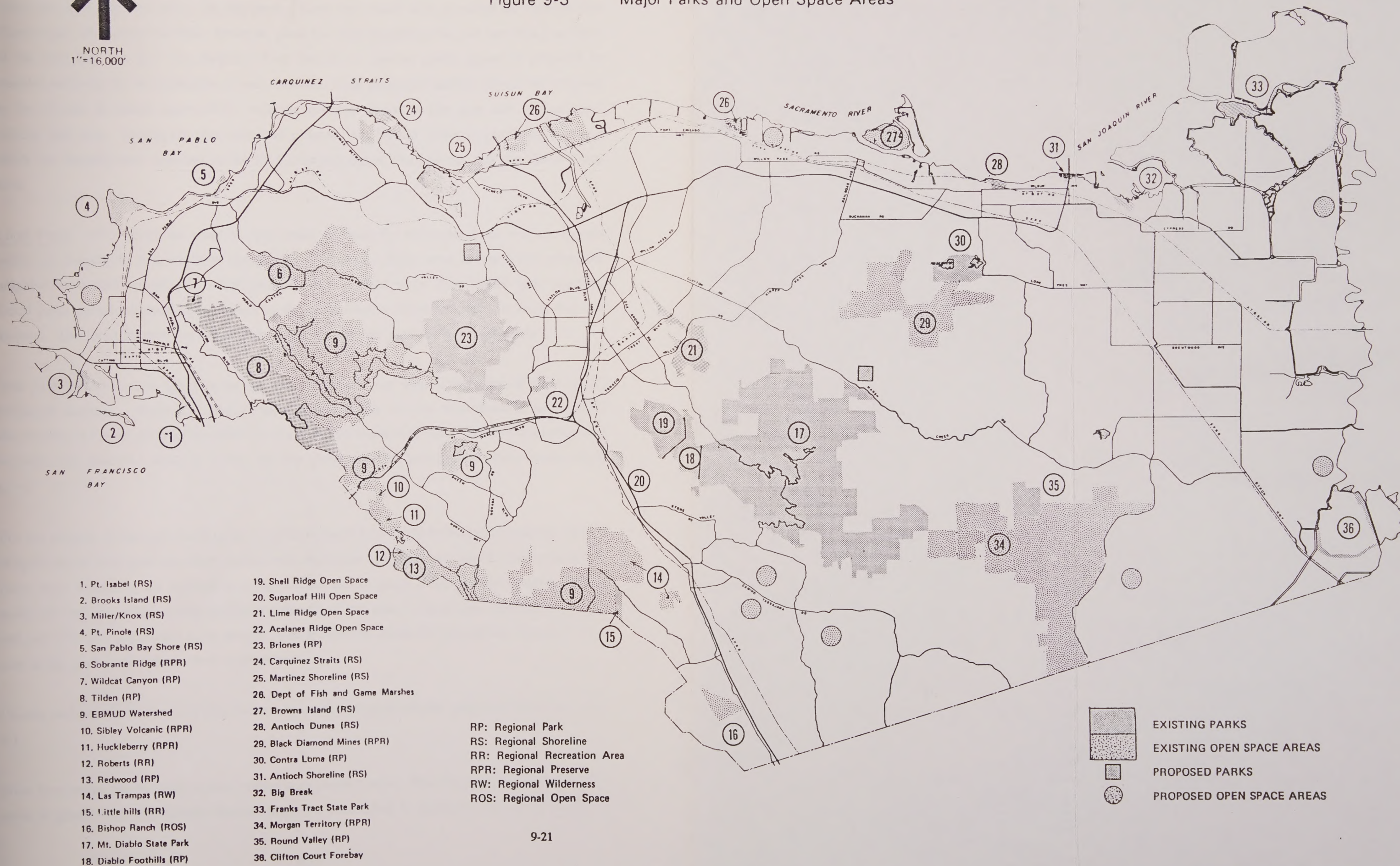
While no county standard is included for Major Parks or Open Space areas, there are numerous areas within the County which deserve to be placed in new parks or added to existing ones. This plan endorses the expansion of Major Park and Open Space Areas to protect the unique resources of the County.

New opportunities for parks arise when additional lands are acquired for other purposes, such as the proposed Los Vaqueros Reservoir in Southeast County. It is anticipated that if one or more reservoirs are constructed within that area, there will be recreational facilities associated with the water project. A park symbol is shown on the Parks and Recreation map to recognize potential parks and recreation uses within the Los Vaqueros watershed area.



NORTH
1"=16,000'

Figure 9-3 Major Parks and Open Space Areas



There are other locations within the Southeast County area which have potential for development of major new recreational facilities; however, plans for their acquisition are just now being realized. At the time that the East Bay Regional Park District or another public agency is prepared to consider seriously the establishment of such facilities, these proposed facilities should be reviewed by the County to ensure compatibility with the concepts found in this plan and with adjacent existing land uses. Among the sites with such potential are Round Valley (a significant property which has recently been acquired by the Park District), Byron Hot Springs, and the Vasco Caves area.

Local Parks. Local parks are areas of open space set aside for recreational use and are located within an acceptable distance from the people they serve. They serve as the focal points for neighborhoods and communities where people can meet and enjoy their leisure time together. Local parks provide a visual counterpoint to the often intense developed areas in which they are located. The more intense the development, the greater the need for adequate parks.

This plan for local parks specifies the County's standards and general locations of existing and proposed facilities. While the map of local park facilities (Figure 9-4) shows a county-wide distribution, it has an enforceable effect for the unincorporated area only. Where differences exist between this plan and those of a city, the city plans will take precedence within incorporated areas.

For the purpose of this plan, local parks are differentiated into neighborhood and community parks. Neighborhood parks generally have service areas equivalent to elementary schools, while community parks more commonly are equivalent to high school service areas. The size and location of local parks will vary depending on the population density of the area to be served. The size of a park will vary with the population to be served. The greater the proposed population, the greater the size of the park necessary to serve a given area.

County park standards for local and community parks and types of play areas are shown on Table 9-1.

Most local parks are currently located within incorporated areas. The County requires that special units of government, e.g. County Service Areas, be established to maintain these local facilities.

TABLE 9-1
COUNTY PARK CRITERIA

1. Playlots
 - a. Site Area: 2,000-5,000 square feet for either an independent site or that portion of a playground developed as a playlot.
 - b. Location: Independent sites located in the centers of apartment projects or planned unit developments which they are intended to serve.
 - c. Facilities: Basic facilities include playground equipment for preschool children (swings, slides, climbing apparatus) and shaded bench area for parents. Additional facilities include sandboxes, spray pools, and both grassed and hard-surfaced play areas.
2. Playgrounds
 - a. Site Area: Independent site -- 3-7 acres; in conjunction with park or school -- 3-5 acres.
 - b. Location: Central to neighborhood served, preferably accessible without having to cross traffic arterials or railroads.
 - c. Facilities: Basic facilities include playground equipment for elementary school children plus both hard-surfaced and grassed play areas. Additional facilities include playlot, shelter, sports and game areas (baseball diamonds, tennis courts, and wading and swimming pools).
 - d. Service Radius: One-half mile; larger in areas of low population density or unusual topography.
 - e. Association: Playgrounds should be developed in conjunction with elementary schools and parks for maximum effectiveness. Location within independently-situated play fields and parks is also desirable.
3. Playfields
 - a. Site Area: 10 acres minimum, 15 acres desirable; 12 acres minimum, 17 acres desirable for sites with playground facilities.
 - b. Location: Central to four or five neighborhoods (roughly four or five elementary school service areas).

TABLE 9-1 (Continued)

- c. Facilities: Primary facilities include game courts, sports fields, lawn games area. Secondary facilities include swimming pool, shelter house or recreation building, parking lot.
 - d. Association: Playfields adjoining high school sites or community parks are particularly appropriate. Playlots and playground should also be included.
4. Neighborhood Parks
- a. Acreage/Population: 2.50 acres per 1,000 population.
 - b. Site Area: Without playground -- 3-7 acres; with playground -- 6-8 acres; with playfield -- 12-17 acres.
 - c. Location: Identical to playgrounds -- center of neighborhood.
 - d. Facilities: (Park area only) Landscaped open space (trees, grass, shrubbery), benches and tables, and walks.
 - e. Service Radius: One-half mile.
 - f. Association: Neighborhood parks are best located adjacent to playgrounds, playfields and elementary schools. They may also contain a neighborhood recreation center.
5. Community Parks
- a. Acreage/Population: 1.50 acres per 1,000 population.
 - b. Site Area: Independent sites -- 15-20 acres. With playgrounds and playfield -- minimum 25 acres, recommended 40-50 acres.
 - c. Location: In the center of a group of neighborhoods. The site should have some natural features of interest such as water frontage or rough topography if possible.
 - d. Service Radius: Two miles.
 - e. Facilities: Both landscaped and natural open space, playgrounds and playfields, parking, special facilities such as golf, boating and swimming, and a community center.
-

County Service Areas are preferred over autonomous units of government, due to the ease with which their boundaries can be modified or eliminated during incorporation. In areas planned for development, efforts should be made to encourage new County Service Areas to provide for maintenance of local parks.

Trails and Paths. Trails provide a linear corridor that is primarily for pedestrian, equestrian and bicycle use. Most trails in the County are established for recreational use, though increasingly some are utilized for commute and transportation purposes. As such this plan is functionally also a part of the County's Transportation and Circulation Element. Note that there are additional policies relating to the transportation aspect of on-street bikeways and trails in the Transportation and Circulation Element. This plan is divided into three separate components dealing with equestrian, hiking and bicycle facilities.

In many cases, trails can be utilized for more than one purpose. For ease of presentation, these three trail plan components are discussed and mapped separately. While the trails plan is county-wide and relies heavily on municipal plans in these areas, not all trails within those areas are shown; only the regional links are included. This plan encourages development of local feeder trails and paths to provide an interconnected system which can work as a circulation component as well as providing recreational opportunities. The County Trail Plan focuses on non-motor oriented facilities in order to maintain peace and tranquility for its users.

The Bicycle Trails Plan is shown on Figure 9-5. Two types of bike trails are shown on the map: primary and secondary paths. The following definitions are to be used in this plan:

Bicycle Trails. Trails of this class connect residential neighborhoods and major destinations of bicycle traffic. They will normally accommodate high volumes of short distance traffic as well as inter-community movement. Ultimately, Primary Bicycle Paths are expected to be developed on their own pathways which are physically separated from other trails or from vehicular traffic.

The Hiking Trails Plan is shown on Figure 9-6. The following definitions are used in the plan:

Hiking Trail. All trails included in this plan are major, or primary, trails. These are intended for external travel by individuals or groups of varying skills and ages. They typically connect important trail use destinations such as major parks and points of special interest. Hiking trails may be paved or, preferably, surfaced with resilient materials to keep down dust and permit travel in all weather.

Figure 9-4 Local Parks



NORTH
1"=16,000'



Figure 9-5 Bicycle Trails



NORTH
1"=16,000'

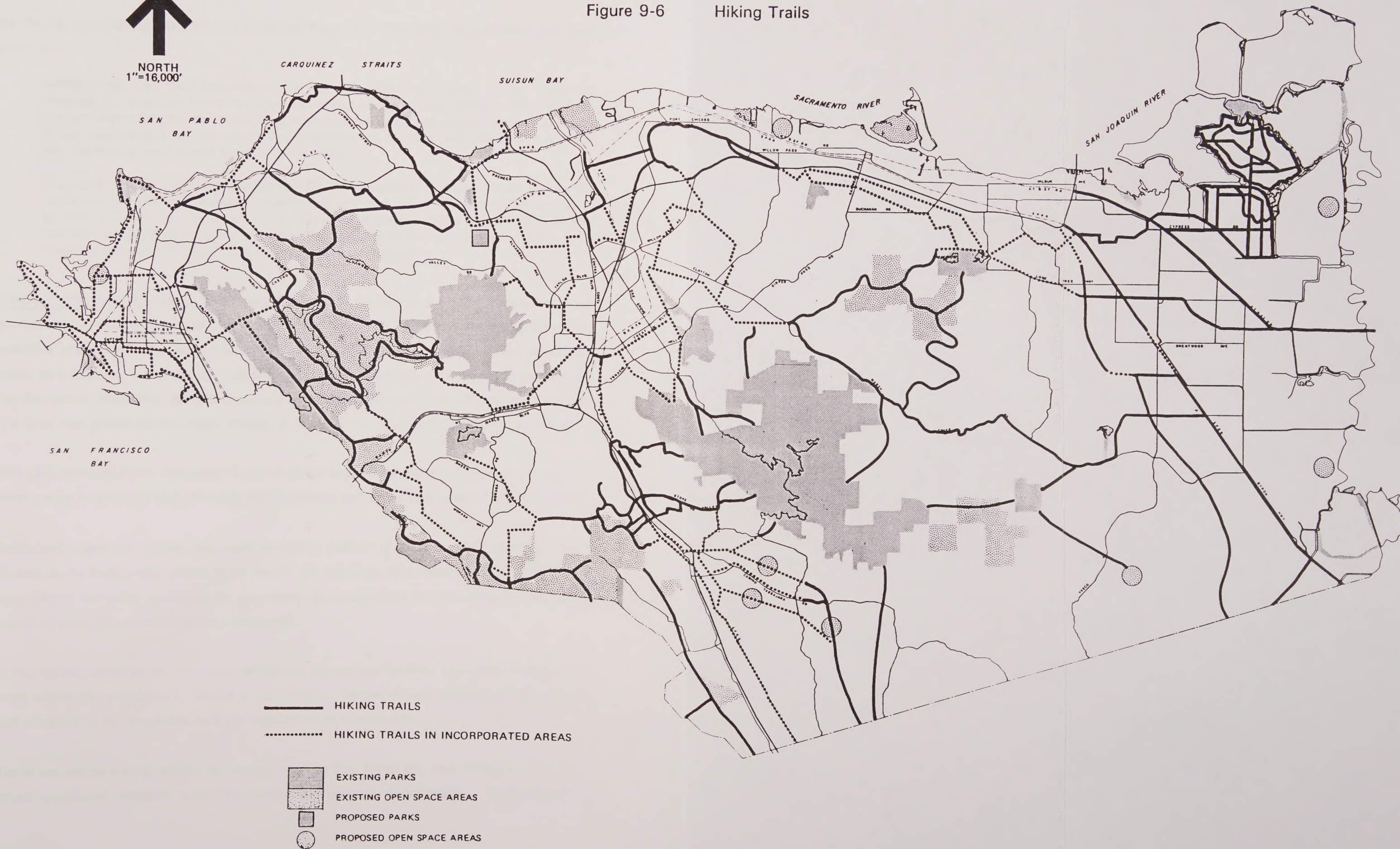


- BICYCLE TRAILS
- BICYCLE TRAILS IN INCORPORATED AREAS
-  EXISTING PARKS
-  EXISTING OPEN SPACE AREAS
-  PROPOSED PARKS
-  PROPOSED OPEN SPACE AREAS



NORTH
1"=16,000'

Figure 9-6 Hiking Trails



The Riding (Equestrian) Trails Plan is shown on Figure 9-7. The following definitions are used in the plan:

Riding Trail. All trails included in this plan are major, or primary, trails. These are intended for extended travel by riders of varying skills and age groups. They typically connect important trail use destinations such as major parks and points of special interest. Riding trails usually are not paved, but preferably are surfaced with resilient material to keep down dust and permit travel in all weather.

Staging Areas. Staging areas are facilities for the assembly of trail user groups and for the parking of vehicles and accessory vehicles such as horse trailers. They need to be located adjacent to both trails and access roads. These areas also should be considered to be trail features and installed by either trail-providing agencies or the user groups. This is not a complete mapping of appropriate areas but an initial listing.

Private Recreational Facilities. Increasingly, private developments are being considered which provide on-site recreational facilities to serve project residents. These facilities provide project amenities and are effective sales tools. They may limit the effect of new homes on the existing public park facilities; but, generally, they provide compatible facilities to those of the public parks. For this reason, credit from the park dedication ordinance requirements should only be given where it is clear that private developments provide facilities which are open to and serve the public.

This plan encourages the placement of such facilities in private developments and encourages the development of pathways that are integrated in location and design with those of adjacent projects.

Additionally, there are current uses, such as sanitary landfills or quarries, which upon completion of their active lives, would enable all or part of the site to revert to recreational and open space uses. Where the public health can be guaranteed, the preservation of these areas for recreational and open space purposes should be considered.

In appropriate locations, the provisions of outdoor recreational facilities, e.g. private campgrounds, could add to the recreational diversity of the County. Design of such facilities needs to be of a high standard to be compatible with the adjacent rural environment.

There are resource areas within the county, e.g., the San Pablo Bay and throughout the Delta, where substantial potential exists for private recreational development. These should be

encouraged if the projects include programs for environmental enhancements to their immediate areas and are limited to extensive recreational facilities.

Additional marinas to serve the Delta and the Bay may be permitted in select areas if they meet the criteria included in the following "Implementation" section.

The joint use of recreational facilities is encouraged. For example, significant potential exists for trails to be developed along PG&E and utility pipeline rights-of-way.

The County's role in park and trail planning covers a broad spectrum of concerns. The County prepares plans for recreational facilities that serve the County population as a whole and work toward coordination of park and recreation efforts of federal, State, regional and local agencies. At the same time, the County is directly responsible for recreational planning for the unincorporated communities.

In order to ensure that the recreational needs of present and future residents of the County are provided for during the Planning period, the following goals and policies were developed.

PARKS AND RECREATION FACILITIES GOALS

- 9-H. To develop a sufficient amount of conveniently located, properly designed park and recreational facilities to serve the needs of all residents.
- 9-I. To develop a system of interconnected hiking, riding and bicycling trails and paths suitable for both active recreational use and for the purpose of transportation/circulation.
- 9-J. To promote active and passive recreational enjoyment of the County's physical amenities for the continued health, safety and welfare of the citizens of the County.
- 9-K. To achieve a level of park facilities of four acres per 1,000 population.

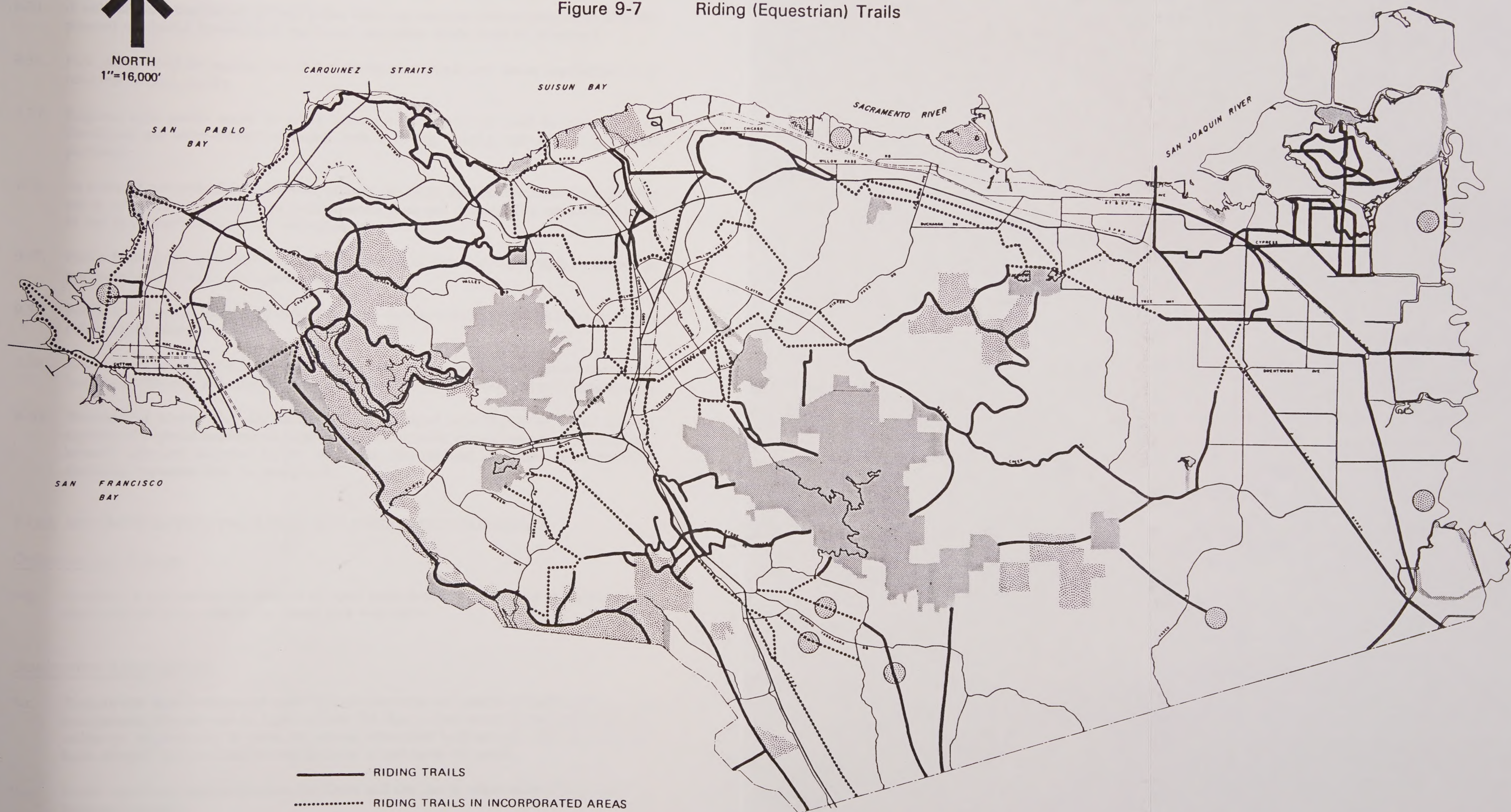
PARKS AND RECREATION FACILITIES POLICIES

- 9-32. Major park lands shall be reserved to ensure that the present and future needs of the County's residents will be met and to preserve areas of natural beauty or historical interest for future generations. Apply the parks and recreation performance standards in the Growth Management Element.



NORTH
1"=16,000'

Figure 9-7 Riding (Equestrian) Trails



- RIDING TRAILS
- RIDING TRAILS IN INCORPORATED AREAS
-  EXISTING PARKS
-  EXISTING OPEN SPACE AREAS
-  PROPOSED PARKS
-  PROPOSED OPEN SPACE AREAS

- 9-33. A well-balanced distribution of local parks, based on character and intensity of present and planned residential development and future recreation needs, shall be preserved.
- 9-34. Park design shall be appropriate to the recreational needs and access capabilities of all residents in each locality.
- 9-35. Regional-scale public access to scenic areas on the waterfront shall be protected and developed, and water-related recreation, such as fishing, boating, and picnicking, shall be provided.
- 9-36. As a unique resource of State-wide importance, the Delta shall be developed for recreation use in accordance with the State environmental goals and policies. The recreational value of the Delta shall be protected and enhanced.
- 9-37. Public funds from agencies such as the Department of Fish and Game shall be utilized to purchase levees and acquire easements.
- 9-38. Public trail facilities shall be integrated into the design of flood control facilities and other public works whenever possible.
- 9-39. Recreational development shall be allowed only in a manner which complements the natural features of the area, including the topography, waterways, vegetation and soil characteristics.
- 9-40. Recreational activity shall be distributed and managed according to an area's carrying capacity with special emphasis on controlling adverse environmental impacts, such as conflict between uses and trespass. At the same time, the regional importance of each area's recreation resources shall be recognized.

PARK AND RECREATION FACILITIES IMPLEMENTATION MEASURES

Ordinances and Programs

- 9-q. Complete a comprehensive study of all open space lands in the County to determine the areas that are most suitable for future park acquisition.

Development Review Process

- 9-r. Require that new development meet the park standards and criteria included in the growth management program and set forth in Table 7-3. Ensure that credit for the park dedication ordinance requirements be given for private recreation facilities only after a finding has been adopted that the facilities will be open to and serve the public.
- 9-s. Permit additional marinas to serve the Delta and the Bay in select areas if they meet the following criteria:
 - 1) where projects can be clustered and located adjacent to similar uses;

- 2) along waterways having an adequate channel width as defined by the State Harbors and Navigation Code;
- 3) in areas having adequate public vehicular access;
- 4) where off-site improvements, such as required access roads, can be assigned to development;
- 5) where adequate on-site sewage disposal can be provided;
- 6) where located in an area served by a public fire protection district; and
- 7) when such uses will not conflict with adjacent agricultural uses.

Intergovernmental Coordination

- 9-t. Coordinate with the various school districts in the County to provide for the joint use of recreation facilities.
- 9-u. Coordinate funds and programs administered by County government and other agencies, such as the East Bay Regional Park District, to obtain optimum recreation facilities development.
- 9-v. Develop a comprehensive and interconnected series of hiking, biking and riding trails in conjunction with cities, special districts, public utilities and county service areas.

Funding

- 9-w. Form a County-wide committee to explore funding sources for recreation and open space to support regional, community and local park and trails on a County-wide basis.
- 9-x. Work with local unincorporated communities to determine the means of providing local park services where the need presently exists, as well as when development occurs.
- 9-y. Increase the park dedication fee to a level which approaches the local park dedication standards called for in this Plan.

10. SAFETY ELEMENT

TABLE OF CONTENTS

	<u>Page</u>
10.1 INTRODUCTION	10-1
Legal Authority	10-1
10.2 RELATIONSHIP TO OTHER ELEMENTS	10-2
10.3 RELATIONSHIP TO OTHER GENERAL PLAN DOCUMENTS	10-2
10.4 PUBLIC SAFETY GENERAL ASSUMPTIONS	10-2
10.5 SAFETY ELEMENT ORGANIZATION	10-3
10.6 SEISMIC HAZARDS	10-4
Introduction	10-4
Issues	10-25
Goals	10-33
Policies	10-33
Implementation Measures	10-35
10.7 GROUND FAILURE AND LANDSLIDE HAZARDS	10-36
Introduction	10-36
Goals	10-39
Policies	10-39
Implementation Measures	10-40
10.8 FLOOD HAZARDS	10-45
Introduction	10-45
Goals	10-50
General Policies	10-50
Policies	10-53
Implementation Measures	10-54
10.9 HAZARDOUS MATERIALS USES	10-55
Introduction	10-55
Goals	10-64
Policies	10-64
Implementation Measures	10-65
10.10 WATER SUPPLY REQUIREMENTS	10-66
Introduction	10-66
Goals	10-66
Policies	10-67
Implementation Measures	10-67

TABLE OF CONTENTS (Continued)

	<u>Page</u>
10.11 PUBLIC PROTECTION SERVICES AND DISASTER PLANNING	10-68
Introduction	10-68
Goals	10-71
Policies	10-71
Implementation Measures	10-72

10. SAFETY ELEMENT

10.1 INTRODUCTION

In accordance with the State General Plan Guidelines, the safety element includes maps of known hazards including seismic and other geologic hazards, and other hazards described below. It addresses evacuation routes; peak-load water supply requirements; and minimum road widths and clearances around structures, as they relate to identified fire and geologic hazards. Other locally relevant safety issues, including hazardous materials spills and water quality protection are also discussed in this element. The County Hazardous Waste Management Plan (HWMP) is incorporated herein by reference, and the goals and policies of the HWMP related to the Safety Element are stated in this section.

LEGAL AUTHORITY

As directed by the State legislature, this element of the General Plan is intended to further "the protection of the community from any unreasonable risks associated with the effects of seismically induced surface rupture, ground shaking, ground failure, tsunami, seiche, and dam failure; slope instability leading to mudslides and landslides, subsidence and other geologic hazards known to the legislative body; flooding; and wild land and urban fires (Government Code Section 65302(g))." (Useful Safety Element definitions and information may be found at the end of this element.) In this General Plan, flooding and flood control are discussed in more than one element. For information, goals and policies regarding these issues, the reader is directed to Sections 7.8, Drainage and Flood Control; and 10.8, Flood Hazards.

This element identifies the hazards that Contra Costa County and its cities must consider when making land use decisions. Based on analysis of local hazards and an evaluation of their associated risks to life and property, this element recognizes a degree of acceptable risk and contains policies for risk management. The element also provides the basis for planning and coordination of risk

management with other divisions of County government, the incorporated cities, and State and federal agencies in order to ensure that public projects, plans and programs of other government agencies reflect public safety issues for Contra Costa County residents.

10.2 RELATIONSHIP TO OTHER ELEMENTS

The Safety Element is expected affect land use policies and hence is coordinated with the Land Use Element. Safety considerations may affect the Open Space/Conservation and Public Facilities/Services Elements, and may present additional justification for lowering density in conjunction with land use decisions, based partly on seismic and landslide risk. The Safety Element is also related to the Housing, Circulation and Transportation; and Public Facilities/Utilities Elements in that it discusses hazards that may affect decision-making in these issue areas.

10.3 RELATIONSHIP TO OTHER GENERAL PLAN DOCUMENTS

The goals, policies and implementation measures contained in this element are intended to guide planning for public and private projects that are subject either to approval of the County planning agency, or to review by County staff, although they may be under the jurisdiction of other public agencies operating in the County. Such goals, policies and implementation measures are intended to be consistent with the other elements of the General Plan, as well as with other planning documents, including the County HWMP (1988).

10.4 GENERAL PUBLIC SAFETY ASSUMPTIONS

The concept of public safety expressed in this element, and the proposed policies and programs to achieve a suitable degree of public protection, are based on the following assumptions:

- o Hazards are an unavoidable aspect of life. Not all hazards can be eliminated, nor can every degree of risk be eliminated for any specific hazard.
- o Public policy and action are appropriate measures to mitigate significant hazards to the general public or to a large part of the population. Such hazards may have a relatively low risk of occurrence but would be disastrous should they occur, or they may have a relatively high risk of occurrence, such as minor landslides, but would not be disastrous. Hazards of the latter type can be due to persistent safety problems in the County.
- o Through the dissemination of information and public discussion, satisfactory judgments can be made as to the levels of monetary, environmental and social costs appropriate to mitigate hazards to public safety.

The policies of this element are not intended to remove all risks associated with the specific hazards discussed, but when implemented will reduce risks to life and property from certain natural and man-made events and conditions, and will lead to greater life safety in case of general disaster.

The determination of acceptable and unacceptable risk requires judgments based on weighing several factors including the nature of the hazard, the frequency, or risk, of a damaging event associated with the hazard, and the relative number of persons exposed to the risk. The degree or intensity of any specific hazard is a major consideration in public mitigation efforts. Thus, hazards with a high life-loss potential are less acceptable than hazards which primarily affect property, and hazards which could impact entire communities are less acceptable than hazards which may impact relatively few persons. Only minimal risk to critical facilities and functions (including water supply, emergency services, evacuation routes, and medical and mass care facilities) is considered acceptable since these facilities and functions are critical to disaster recovery for entire communities.

Exposure to the natural hazards considered in the Element is often voluntary; persons who choose to purchase property on unstable ground or subject to wildfire and flooding are usually aware of the potential hazard. On the other hand, exposure to some risks, such as exposure to hazardous substances, is usually involuntary. Voluntarily taken risks are not necessarily acceptable from the public point of view because property owners have expectations that grading and building regulations, fire services, and flood control works will provide a significant degree of risk reduction. The greater capital and maintenance costs of public facilities in hazardous areas, represent a disproportionate share of tax revenues for hazard mitigation.

10.5 SAFETY ELEMENT ORGANIZATION

This chapter of the General Plan is divided into six sections that present background information, policies, maps, and implementation measures regarding:

- o seismic hazards (earthquakes and faults, and the effects of strong earthquakes, such as liquefaction);
- o landslides and associated hazards;

- o flooding hazards, including the impacts of the "greenhouse effect," subsidence, and dam or levee failure;
- o hazardous material uses, including the transport and storage of hazardous materials, pipelines, etc.;
- o dangers to water quality and public water supplies; and
- o disaster planning and the provision of public protection services.

10.6 SEISMIC HAZARDS

INTRODUCTION

Earthquakes are sudden releases of strain energy stored in the earth's bedrock. The great majority of earthquakes are not dangerous to life or property either because they occur in sparsely populated areas or because they are small earthquakes which release relatively small amounts of energy. However, where urban areas are located in regions of high seismicity, damaging earthquakes are expectable if not predictable events. Seismic risk is assumed by every occupant and developer in Contra Costa County because the County is within an area of high seismicity; the San Francisco Bay Region has been impacted by more than ten severe earthquakes during historic time.

The major effects of earthquakes are ground shaking and ground failure. Severe earthquakes are characteristically accompanied by surface faulting and less commonly by tsunamis and seiches, further described in the "Flood Hazards" section of this chapter. Flooding may also be triggered by dam or levee failure resulting from an earthquake, or by seismically-induced settlement or subsidence. All of these geologic effects are capable of causing property damage and, more importantly, risks to life and safety of persons.

A **fault** is a fracture in the earth's crust along which the rocks on opposite sides have moved relative to each other. By definition, active faults have a high probability of future movement. With regard to planning and development, two aspects of fault displacement should be considered: (a) the effects that sudden movement along faults may have on structures built across their traces, and (b) the relatively slow effects of fault creep on structures built across their traces. Fault displacement involves forces so great that the only means of limiting damage to man-made

structures is to avoid the traces of active faults. Any movement beneath a structure, even on the order of an inch or two, could have catastrophic effects on the structure and its service lines.

Energy release events on an active fault may alternate from one trace to another, and movement on a master fault may trigger adjustments on minor, subsidiary faults. Because of these factors, fault traces which intersect or parallel known active faults warrant special consideration during project review.

For the purpose of this Safety Element, earthquakes are classified according to the descriptive names listed in Table 10-1.

Earthquake planning and seismic review often use a set of descriptions of predicted earthquake capabilities called "maximum credible earthquake" and "maximum probable earthquake." The maximum credible earthquake is the maximum earthquake that appears capable of occurring. The maximum probable earthquake is the maximum earthquake believed likely to occur during a 100-year interval. The maximum credible and maximum probable earthquakes for various faults in the county are defined later in this chapter and further explained in the appendix.

The overall energy release of an earthquake is its most important characteristic, but not the only criterion required for seismic safety planning or construction design. Other important attributes include an earthquake's duration, its related number of significant stress cycles and its accelerations. Structures capable of withstanding more powerful earthquakes can fail in a less severe earthquake of long duration or due to especially high local accelerations.

Local Geology

In order to understand the fault system in Contra Costa County, where earthquakes are most likely to occur, a brief discussion of the local geology is necessary. Figure 10-1 illustrates the generalized geology of the County and the accompanying Table 10-2 summarizes the County's "geologic column" and geologic time scale.

TABLE 10-1
EARTHQUAKE SIZE DESCRIPTIONS

<u>Descriptive Title</u>	<u>Richter Magnitude</u>	<u>Intensity Effects¹</u>
Minor Earthquake	1 - 3.9	Only observed instrumentally or felt only near the epicenter. Modified Mercalli Scale, intensity IV or less.
Small Earthquake	4 - 5.9	Surface fault movement is small or does not occur. Felt at distances of up to 20 to 30 miles from epicenter. May cause damage (Modified Mercalli Scale, VII) in small area.
Moderate earthquake	6 - 6.9	Moderate to severe earthquake range; fault rupture probable.
Major earthquake	7 - 7.9	Landslides, liquefaction and ground failure triggered by shock waves.
Great earthquake	8 - 8+	Damage extends over a broad area, depending on magnitude and other factors. Maximum intensity ranges from VIII to XII on the Modified Mercalli Scale.

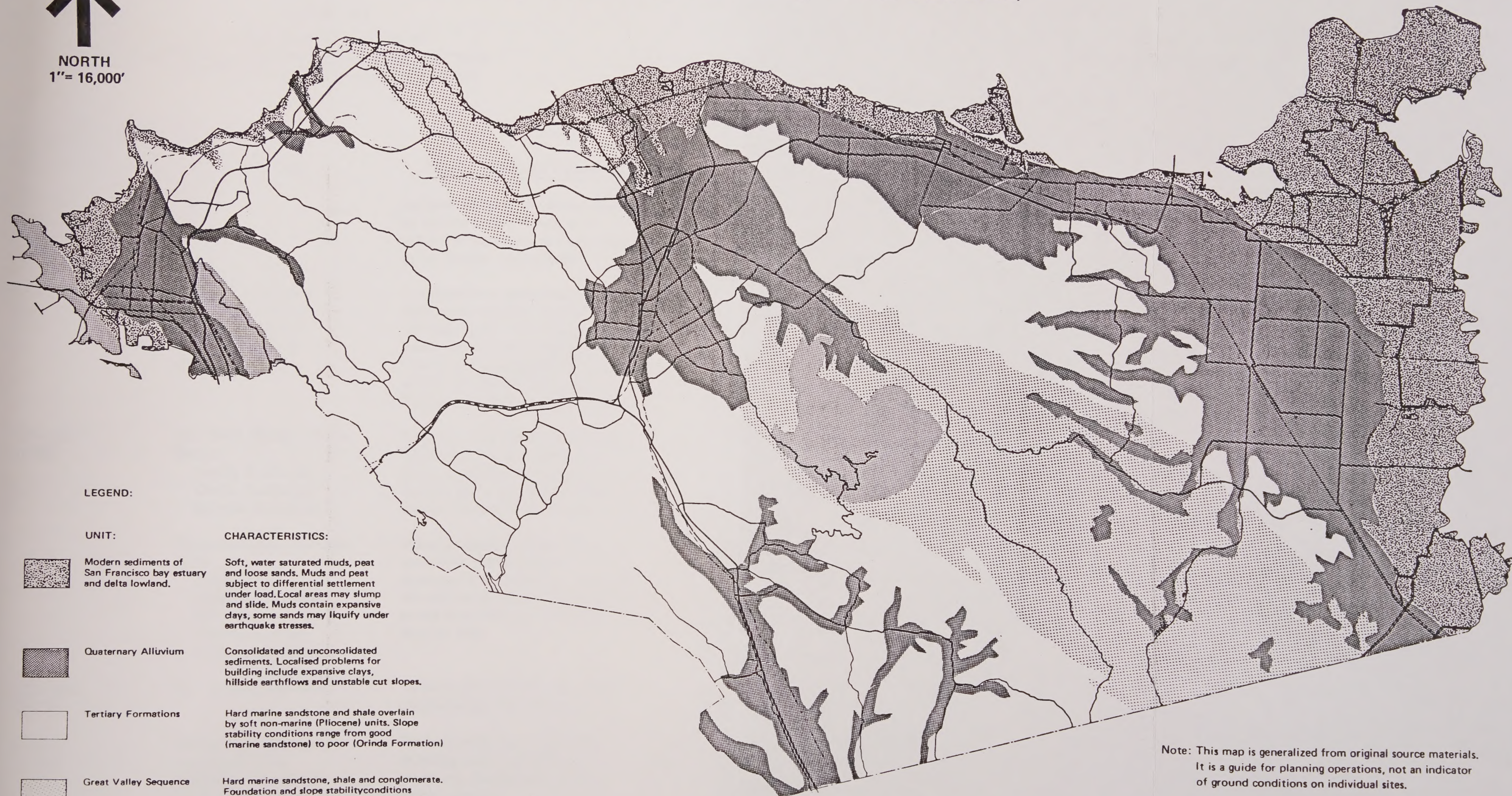
¹See the Appendix M for a discussion of the Modified Mercalli intensity scale classification system.

Source: Compiled by Contra Costa County Community Development Department.

Figure 10-1 Generalized Geology of Contra Costa County



NORTH
1" = 16,000'



LEGEND:

UNIT:

CHARACTERISTICS:



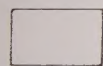
Modern sediments of San Francisco bay estuary and delta lowland.

Soft, water saturated muds, peat and loose sands. Muds and peat subject to differential settlement under load. Local areas may slump and slide. Muds contain expansive clays, some sands may liquify under earthquake stresses.



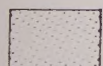
Quaternary Alluvium

Consolidated and unconsolidated sediments. Localised problems for building include expansive clays, hillside earthflows and unstable cut slopes.



Tertiary Formations

Hard marine sandstone and shale overlain by soft non-marine (Pliocene) units. Slope stability conditions range from good (marine sandstone) to poor (Orinda Formation)



Great Valley Sequence

Hard marine sandstone, shale and conglomerate. Foundation and slope stability conditions good to fair subject to sliding where sheared, fractured or contorted.



Franciscan Formation

Hard sandstone, chert and shale, metamorphic rock and basalt. Forms core of Diablo Range and Briones Hills Foundation support and slope stability in fresh rock good, subject to sliding where sheared.

Note: This map is generalized from original source materials. It is a guide for planning operations, not an indicator of ground conditions on individual sites.

Source: Map compiled from maps from the U.S. Geological Survey and from the California Division of Mines and Geology

TABLE 10-2
GEOLOGIC TIME SCALE
GENERALIZED STRATIGRAPHIC SECTION
AND LITHOLOGIC CHARACTERISTICS

Generalized Stratigraphic Section		
Geologic Age (Absolute Age) ¹	Formation Name	General Lithologic Description
Quaternary Holocene & Pleistocene (0-2)	Alluvium	Includes all types of alluvial deposits. In Central Coast Range, it is separated from Contra Costa Group by an angular unconformity.
Tertiary Pliocene (2-5)	Contra Costa Group Bald Peak Basalt Siesta Formation Moraga Formation Orinda Formation	Conglomerate, sandstone, siltstone with minor amounts of limestone and tuff; rapid facies changes. Some basalt and andesite (volcanic) flows. Clastics are semi-consolidated and contain montmorillonite clay. Topographic form highly variable.
Miocene (5-24)	San Pablo Group (Diablo Range) Neroly Sandstone Cierbo Sandstone Briones Sandstone Monterey Group (Briones Hills) Rodeo Shale Hambre Sandstone Tice Shale Claremont Shale Sobrante Sandstone	Predominantly marine sandstone with interbeds of shale, siltstone and minor conglomerate. Upper part includes some non-marine beds (e.g., Diablo Formation of Weaver, 1944) Siliceous shale and fine-grained sandstone. Some zones of rhythmically bedded chert and shale. Bituminous in places. Underlies moderately steep to steep hillsides in Briones Hills.
Oligocene (24-37)	San Ramon Formation	Tuffaceous sandstone, tuff, minor conglomerate and siltstone.
Eocene (37-58)	Markley Formation Nortonville Shale Domengine Sandstone Meganos Formation	Predominately indurated bedrock including shale, siltstone and sandstone. Montmorillonitic clay shales, unstable.
Paleocene (58-66)	Martinez Formation	Marine, Glauconite sandstone and shale. Shale similar to Eocene.

TABLE 10-2 (Continued)

Generalized Stratigraphic Section		
Geologic Age (Absolute Age) ¹	Formation Name	General Lithologic Description
Cretaceous (66-144)	Great Valley Sequence	Great Valley Sequence: Massive beds of sandstone alternating with siltstone and shale. Minor conglomerate, limestone and lignite. Complex folding and faulting. Crops out in Briones Hills and Diablo Range.
Cretaceous-Jurassic (In part contemporaneous with Great Valley Sequence and Tertiary rocks.)	Franciscan Assemblage	Cretaceous-Franciscan: Rhythmically bedded graywacke Jurassic Assemblage sandstones, shale, siltstones, radiolarian chert, greenstone. Minor amounts of limestone and schist. Partially recrystallized and intruded by serpentine and associated igneous rocks. Strongly deformed.

¹Units of absolute age are millions of years before present.

Modified after Radbruch (1969). Compiled by Contra Costa County Community Development Department.

Note: This table is generalized from original source materials. It is not an indicator of ground conditions on individual sites.

The geology of Contra Costa County is dominated by several northwest trending fault systems which divide the County into large blocks of rock. For example, the Briones Hills are bounded by the Hayward fault on the west and elements of the Franklin-Calaveras fault system on the east. Within a particular block the rock sequence consists of (1) a basement complex of broken and jumbled pre-Tertiary sedimentary, igneous and metamorphic rocks; (2) a section of younger Tertiary sedimentary rocks and some volcanic rocks (flows and tuffs) which locally intertongue with and overlie the sedimentary section; and (3) surficial deposits including stream alluvium, colluvium (slopewash deposits at the foot of steeper slopes), slides, alluvial fans, and Bay Plain deposits. The character of each of these categories of rocks is summarized in Table 10-2.

From the perspective of seismic safety planning, the older, coarser, and well-drained materials tend to be stable during earthquakes, while younger, fine-grained and water-saturated deposits tend to be less stable. Colluvium is often marginally stable to unstable. A disproportionate share of landslides originate in colluvium.

Faults are seldom single cracks but are typically a series of quasi-parallel or en-echelon breaks that comprise zones. These breaks form networks composed of major and minor faults. A fault having recorded movement, or one which shows evidence of geologically recent displacement (within about the last 10,000 years), is regarded as "active" and is more likely to generate a future earthquake than a fault which shows no signs of recent movement. Along with the criteria for fault activity, the last time of faulting, based on geologic evidence, is used to assess fault activity. The historic record is so short, and earthquakes are so scattered, that they are used only as the surest indicator of fault activity.

General Inventory of Seismic Faults

Figure 10-2 shows the earthquake faults that have been mapped in the County and categorizes their recent activity. Further technical information is discussed in the appendix. Table 10-3 summarizes other available data on inferred active faults affecting Contra Costa County.

In the context of geologic evidence for activity, those faults which have been active during the Holocene period, approximately the last 10,000 years, are considered to be active faults, and those faults which have been active during the Quaternary period, approximately the last 3 million years,

are considered to be potentially active faults. This serves to differentiate faults for which sufficient evidence of recent activity has been noted to explicitly include them as known geologic hazards, distinct from those faults for which recent displacement is known or suspected, and whose latest activity has not been determined, but may have been within approximately the last 10,000 years.

In addition to faults which have been classified as active or potentially active, there are others whose activity has not been clearly established by presently available information. Some of these faults are shown on Figure 10-2 and discussed in the appendix. Others remain to be studied.

The County has been subjected to numerous seismic events, originating both on faults within the County and in other parts of the region. Six major Bay Area earthquakes have occurred since 1800 that definitely affected the County, and at least two of the faults that produced them run through or into the County. These earthquakes and the originating faults include the 1836 and 1868 earthquakes on the Hayward fault, and the 1861 earthquake on the Calaveras fault. Two earthquakes, in 1838 and 1906, originated on the San Andreas fault, west of the county near San Francisco or to the south, while one earthquake (with two major shocks) that caused some damage in the County occurred in 1872 and was centered north of Contra Costa County in the Vacaville-Winters area of Solano County. A smaller earthquake, centered near Collinsville in Solano County on a fault of uncertain identity, occurred in 1889. Figure 10-3 shows the locations for epicenters of earthquakes of Richter magnitudes as small as approximately 2.0 (which are unevenly reported because not all of them were recorded by enough stations to be located accurately), and for the period 1934-1980.

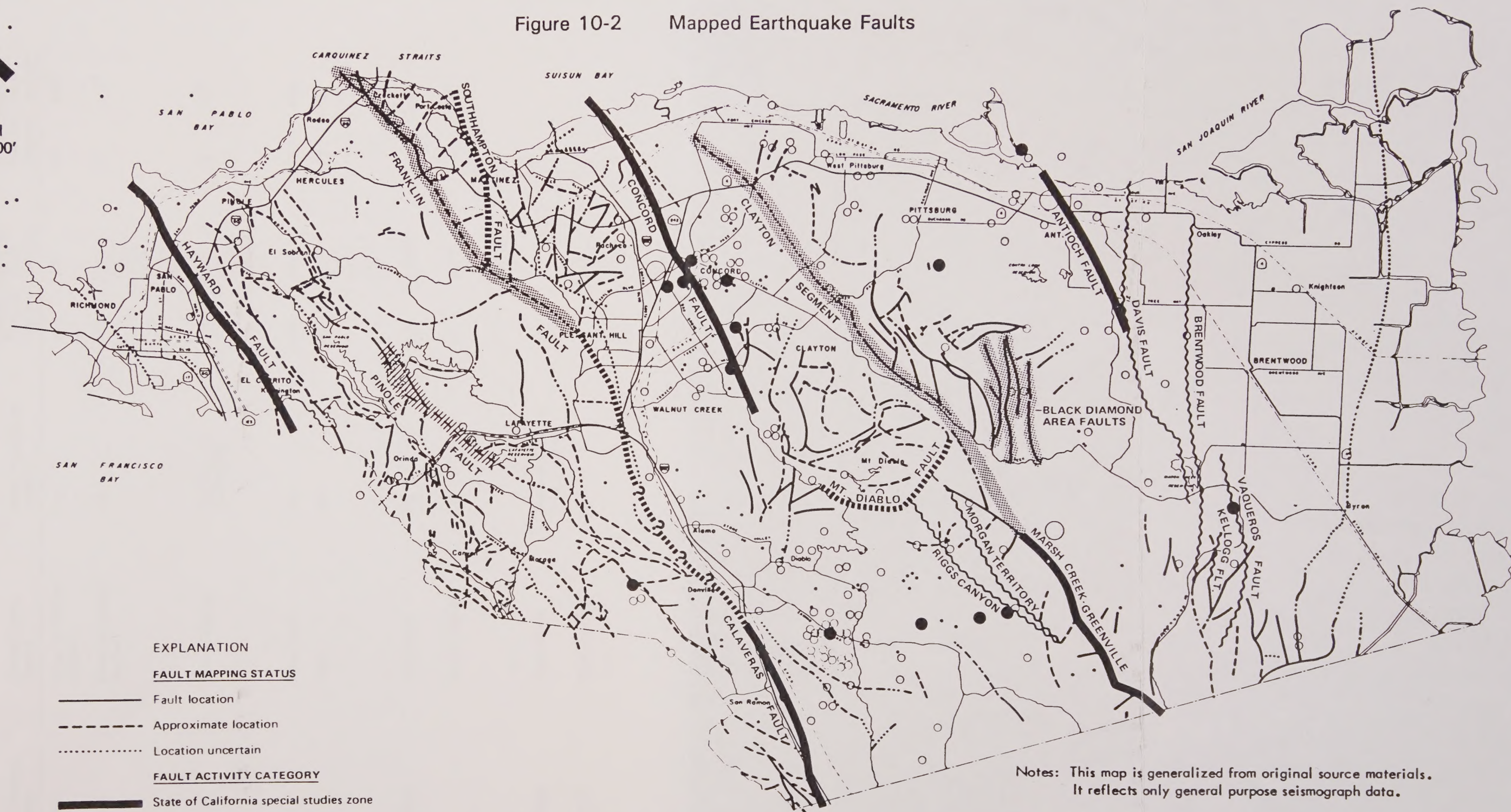
Existing Policies and Regulations Affecting Seismic Hazards

The major State legislation regarding earthquake fault zones is the Alquist-Priolo Special Studies Zones Act. The purpose of the Act is to regulate development near active faults to mitigate the hazard of surface fault rupture. Under the Act, the State Geologist is required to delineate "special studies zones" along known active faults in California. Cities and counties affected by the zones must regulate certain development projects within the zones. They must withhold development permits for sites within the zones until geologic investigations demonstrate that the sites are not threatened by surface displacement from future faulting.

Figure 10-2 Mapped Earthquake Faults



NORTH
1"=16,000'



EXPLANATION

FAULT MAPPING STATUS

- Fault location
- - - Approximate location
- Location uncertain

FAULT ACTIVITY CATEGORY

- ▬ State of California special studies zone
- ▨ Faults with reported Late Pleistocene displacement but not in a state of California special studies zone
- ||||| Faults without evidence of late Pleistocene or Holocene surface displacements
- ||||| Faults associated with earthquake swarms
- ~~~~~ Faults inferred active on the basis of scattered small magnitude earthquakes near the trace of the fault
- Faults inferred active on the basis of a tectonic model

Notes: This map is generalized from original source materials. It reflects only general purpose seismograph data.

The apparent scattering of the epicenters relative to fault locations is due to instrumentation and measurement problems as well as the dip of the faults and other factors.

Prepared by the Contra Costa County Community Development Department, Contra Costa County, California.

TABLE 10-3

AVAILABLE DATA ON INFERRED ACTIVE FAULTS
AFFECTING CONTRA COSTA COUNTY

Fault Name	Historic Damaging Earthquakes	Historic Surface Faulting	Known Microseismic Activity	Estimated Maximum Credible Earthquake		Estimated Maximum Probable Earthquake	
				Preferred magnitude	From literature	Preferred magnitude	From literature
San Andreas	1838, 1906	Creep and Surface Rupture	Yes	8.5	8.5 ¹	8.25	8.25 ⁶
Hayward	1836, 1868	Creep and Surface Rupture	Yes	7.25	7.0, ¹ 6.9, ² 7.25, ³ 7.0, ⁵ 6.8-7.0, ⁶ 7.6 ⁷	6.5	6.75 ⁶
Calaveras	1861	Surface Rupture	None in Contra Costa County	7.25	7.3, ¹ 6.7, ² 7.3, ^{3,4,5} 6.5-7.2, ⁶ 7.5 ⁷	6.5	6.5 ⁶
Franklin	1898?	None Known	No	6.25	6.25 ⁵	N/A	N/A
Concord	1955	Creep	Yes	6.5	6.3, ¹ 7.25, ³ 6.5, ^{4,5} 6.1-6.5, ⁶ 6.4 ⁷	5.75	5.5 ⁶
Greenville-Clayton Segment	None Known	None Known	No	6.25	6.25, ^{4,5}	5.5	N/A
Greenville-Marsh Creek	1980	Surface Rupture	Yes	6.5	6.5, ^{4,5}	5.75	5.5 ⁶
Greenville-Segment Unknown					6.9, ⁷		
Black Diamond Area	None Known	None Known	Scattered clusters in areas near faults	5.5	5.5 ⁴	N/A	
Antioch	1889?, 1965	Reported Creep	Yes	6.5	6.6, ¹ 5.75, ⁴ 6.5 ⁶	5.75	

Table 10-3 (Continued)

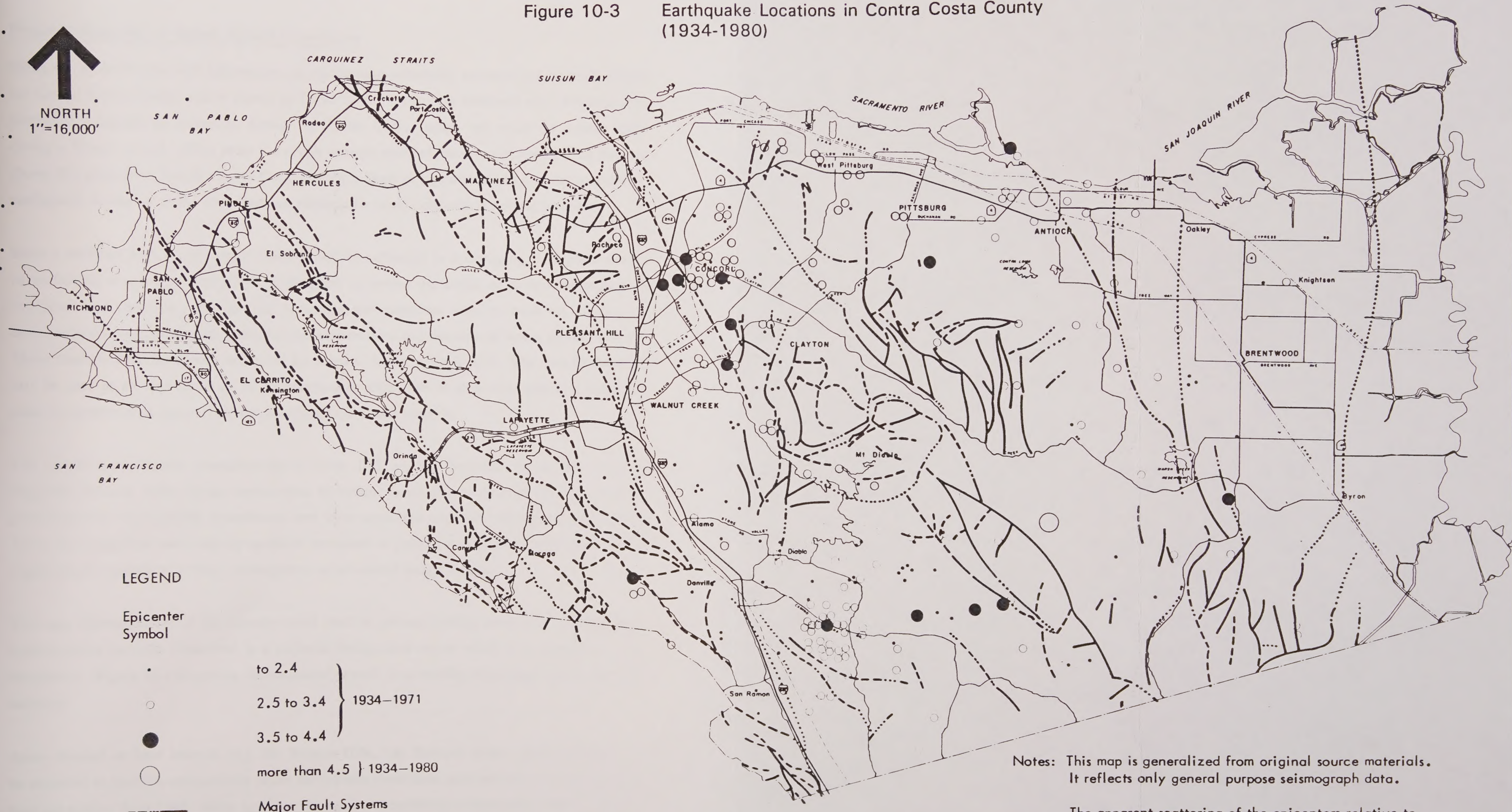
References:

- ¹Wesson and Others (1975)
- ²Herd (1979)
- ³Slemmons and Chung (1982)
- ⁴Earth Science Associates (1982)
- ⁵Earth Science Associates (1983)
- ⁶Woodward-Clyde Consultants (1984)
- ⁷Shedlock and Others (1980)

Notes:

- (1) The maximum credible earthquake is the maximum earthquake that appears capable of occurring under the presently known tectonic framework. It is a rational and believable event that is in accord with all known geologic and seismic facts. In determining the maximum credible earthquake, little regard is given to its probability of occurrence, except that its likelihood of occurring is great enough to be of concern. It is conceivable that the maximum credible earthquake might be approached more frequently in one geologic environment than in another. (California Division of Mines and Geology (CDMG) Note 43, 1975)
 - (2) The maximum probable earthquake is the maximum earthquake that is likely to occur during a 100-year interval. It is to be regarded as a probable occurrence, not as an assured event that will occur at a specific time. (CDMG Note 43, 1975).
-

Figure 10-3 Earthquake Locations in Contra Costa County (1934-1980)



Compiled by the Contra Costa County Community Development Department from the University of California (Berkeley) Seismograph Station Records.

Notes: This map is generalized from original source materials. It reflects only general purpose seismograph data.

The apparent scattering of the epicenters relative to fault locations is due to instrumentation and measurement problems as well as the dip of the faults and other factors.

Projected Probability of Seismic Hazard Occurrences

Using the available data and information, an earthquake probability estimate has been developed for Contra Costa County and is shown in Table 10-4. Table 10-4 evaluates the likelihood that earthquakes capable of producing damage in Contra Costa County will occur on certain faults during a 50-year period. (Fifty years is a rough average nominal life of a structure.) The forecast shows that a structure built in Contra Costa County is likely to be subjected to a severely damaging earthquake during its useful life. Such an earthquake could originate in several locations.

Since a structure built in the region probably will be subjected to a damaging earthquake during its useful life, it is reasonable that it be designed to survive the event, or to at least protect its occupants and functions. To do this, architects and engineers need to have information on earthquake characteristics, such as earthquake accelerations and duration of strong ground shaking. These characteristics have been estimated for selected faults in Table 10-5. The data in the table may be used as an approximation of parameters prevailing over a large area and as a beginning point for determining the parameters affecting a particular location.

The tabulated earthquake characteristics in Table 10-5 are for "bedrock" for seismic response purposes, and may differ in the near-surface materials. Solid ground or rock tends to dampen ground motion while poorly consolidated and water-saturated materials amplify ground motion. These data should be used only by qualified personnel in project background evaluations, and by engineers and architects in their development of structural design criteria.

The ways different areas of the County would react to ground shaking have been mapped using approximation methods (described in a technical background report which is an appendix to this document). Figure 10-4 illustrates the estimated seismic susceptibility to damage based upon this mapping.

Areas situated on hard bedrock (e.g. the Briones Hills, Las Trampas Ridge, Diablo Range) may be expected to perform satisfactorily under earthquake conditions, provided that ground materials near the surface do not fail. Areas underlain by weakly consolidated sedimentary rocks (e.g. Pinole Ridge, the Tassajara Area, Alamo) are considered to possess a moderately low to moderate damage susceptibility.

TABLE 10-4
APPROXIMATE PROBABILITY OF OCCURRENCE OF
EARTHQUAKES ON SELECTED BAY AREA FAULTS
(50-YEAR PERIOD)

<u>Causative Fault</u>	<u>Magnitude</u>	<u>Approximate Probability of Occurrence (over a 50-year period)</u>
San Andreas	7.0 - 8.0	Likely
	8.0 - 8.5	Intermediate
Hayward	6.0 - 7.0	Likely
	7.0 - 7.5	Intermediate
Calaveras	6.0 - 7.0	Intermediate
	7.0 - 7.5	Intermediate - Low
Concord	5.0 - 6.0	Likely
	6.0 - 7.0	Intermediate - Low
Antioch	5.0 - 6.0	Likely
	6.0 - 7.0	Intermediate - Low

Definition of Terms:

Likely: Greater than a 50% probability of occurrence.

Intermediate: A 15-50% probability of occurrence.

Low: Less than a 15% probability of occurrence.

Source: Contra Costa County Community Development Department estimates

TABLE 10-5

ESTIMATED MAXIMUM PARAMETERS FOR KNOWN FAULTS
AFFECTING CONTRA COSTA COUNTY
(BASED ON TABLE 10-3)

Fault	San Andreas	Hayward	Calaveras	Concord	Clayton/ Greenville	Antioch
Magnitude ¹	8.25 - 8.5	6.5 - 7.25	6.5 - 7.25	5.75 - 6.5	5.75 - 6.5	5.75 - 6.5
Duration of Strong Shaking ² (Seconds)	25 -37	18 - 30	18 - 30	7 - 22	7 - 22	7 - 22
Maximum Intensity (M.M.) ³	IX - XI	VIII - IX	VIII - IX	VII - VIII	VII - VIII	VII - VIII
Peak Horizontal Accelerations on Rock ⁴						
Distance from Fault in Miles						
5	.50 - .55	.25 - .50	.25 - .50	.20 - .45	.20 - .45	.20 - .45
10	.45 - .50	.15 - .40	.15 - .40	.15 - .30	.15 - .30	.15 - .30
20	.25 - .30	.10 - .25	.10 - .25	.05 - .15	.05 - .15	.05 - .15
30	.20 - .25	.05 - .20	.05 - .20	.05 - .10	.05 - .10	.05 - .10
40	.15 - .20	.05 - .10	.05 - .10	<.05	<.05	<.05
50	.10 - .15	<.10	<.10	<.05	<.05	<.05

Notes:

¹ Magnitude Estimates from Table 10-3. The first listed magnitude for each fault is the maximum probable earthquake; the second is the maximum credible earthquake. The maximum probable earthquake for the San Andreas Fault is the historic 1906 earthquake.

² Bracketed duration for ground motions are 0.5g within 10 miles of the fault. Estimates based on relationships developed by Bolt (1973).

³ Estimate based on relationships developed by Richter (1958). Modified Mercalli scale is included in Appendix M.

⁴ Estimates based on relationships developed by Seed and Idriss (1972), Joyner and Boore (1981), Campbell (1981) and Sadigh (1983).

The characteristics of ground motion in alluvial areas will differ somewhat from nearby bedrock areas (e.g., higher amplitudes, longer period, somewhat higher accelerations, etc.), and these differences may be important in the design of sophisticated structures. Areas underlain by firm, dry alluvium are considered to possess a moderate damage susceptibility.

Areas underlain by young bay mud and deposits of the Sacramento-San Joaquin delta are considered to possess the highest damage susceptibility. Most of the County's development and population are located in areas of moderate to moderately low damage susceptibility.

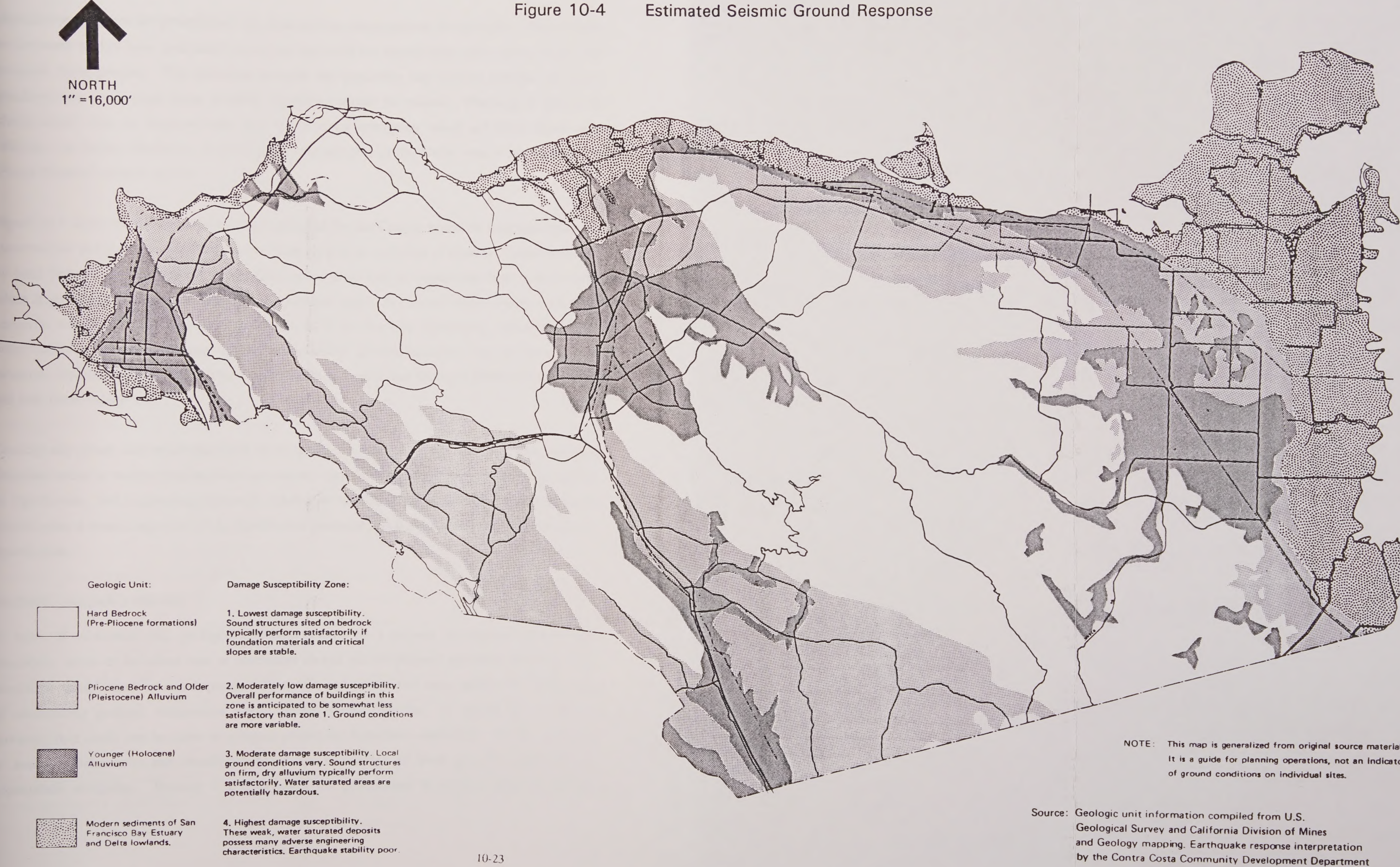
Liquefaction is a specialized form of ground failure caused by earthquake ground motion. It is a "quicksand" condition occurring in water-saturated, unconsolidated, relatively clay-free sands and silts caused by hydraulic pressure (from ground motion) forcing apart soil particles and forcing them into quicksand-like liquid suspension. In the process, normally firm, but wet, ground materials take on the characteristics of liquids.

Catastrophic ground failures may result from liquefaction that pose a major threat to the safety of engineered structures. Major landslides, settling and tilting of buildings on level ground, and failure of water retaining structures have all been observed as a result of this type of ground failure. It should be emphasized that great earthquakes anywhere in the Bay Area are capable of triggering liquefaction in Contra Costa County.

Historically, ground failure in its various forms, including liquefaction, has been a problem in areas of continually wet, unconsolidated geologic units. In Contra Costa County, the areas which are most susceptible to ground failure include the geologically young sediments of the San Francisco Bay estuary, including the Delta lowlands.

Within the area of continually wet, unconsolidated deposits (Zone IV on Figure 10-4), the degree of seismic risk is closely related to local ground conditions. A site underlain by a great thickness of potentially unstable material (soft, compressive mud and loose, clay-free sands, etc.) is extremely hazardous. It should be recognized that such a site has a very limited development potential. Conversely, a site underlain by a minimum thickness of soft mud possesses a much better development potential. Utilizing existing knowledge of foundation engineering, such a site could be made suitable for a variety of land uses.

Figure 10-4 Estimated Seismic Ground Response



Liquefaction presents the potential for the most serious consequences in the Delta. Several pre-development studies have confirmed that a high potential for liquefaction exists below levees and proposed developments. This potential presents the possibility that several failures can occur simultaneously on a single levee, possibly preventing access for repairs. Flooding of protected islands would then be unpreventable and would make emergency relief and later repair very difficult. (A further discussion of flooding and liquefaction in the Delta area is included in the "Flood Hazards" section below.)

Figure 10-5 shows the estimated liquefaction potential for the County, based on geologic conditions (summarized in Figure 10-1), and a review of soils data from a number of sources. Areas underlain by hard bedrock are not subject to liquefaction, so these can be eliminated from consideration when large areas are being evaluated on a generalized basis. In Contra Costa County, such areas comprise about half of the land area, but almost all of that has hilly topography. Areas with deep water tables and those underlain by well consolidated ground materials typically have low or moderate liquefaction potentials. The cities of western, central and northern Contra Costa County fall into these categories.

Geologically young and water-saturated sandy sediments, such as those found in the extensive shoreline areas in western and northeastern county locations and the delta, are highly susceptible to liquefaction. Soil engineering studies for subdivision and other major land development projects should make a careful appraisal of the liquefaction potential and the possible consequences of such liquefaction.

SEISMIC HAZARD ISSUES

In areas of substantial risk, geologic conditions should be a primary determinant of land use. Generally, urban or suburban uses or intensities should not be planned for areas where geologic conditions would result in unacceptable risks to life and safety, and areas where the public costs of overcoming geologic deficiencies would exceed public benefits. It should be recognized, however, that much can be done to mitigate potentially hazardous conditions. Project approvals in areas of substantial risk should be based on knowledge of local ground conditions and appropriate mitigation. Because it is impractical for government to prepare detailed geologic

information on a countywide basis, it is preferable to deal with geologic conditions through project review.

Senate Bill 547 (1986) requires that jurisdictions prepare an inventory of unreinforced masonry structures and adopt local ordinances to improve or replace this type of structure. Unreinforced masonry structures are generally believed to be prone to collapse in an earthquake with resultant high risk of deaths and injuries.

Certain public and institutional services are needed immediately following an earthquake to aid the injured, prevent additional casualties, and protect property. It is imperative that these critical and emergency service facilities survive an earthquake and remain operative. Other public facilities such as emergency shelters and gathering areas for separated family members are also important facilities that should be designed to survive any earthquake.

Underground components of utility systems are often extensively damaged during significant earthquakes. Pipelines for domestic and fire fighting water, sewer service, gas, and for electrical services and communications can be shattered. Above-ground transmission and distribution systems are also susceptible to earthquake damage, but they are usually easier and less expensive to restore than the underground installations. In addition, utility plants and stations are subject to earthquake damage.

Transportation facilities, especially the bridges, roads and streets of the arterial network, are "critical" or "essential" facilities for responding to the effects of a substantial earthquake because they are necessary for the movement of emergency vehicles, supplies, and evacuation transport. Later, they are necessary to accomplish reconstruction and restoration of the local economy. For example, airports enable damage-assessment reconnaissance flights immediately after a disaster, and accommodate the evacuation of casualties and supplies afterwards. The full range of transportation facilities, including railroads, ports, and public transportation systems, have roles to play in the recovery process.

Transportation systems are vulnerable to earthquakes. Road and streets are easily blocked, and are often buckled and broken, but emergency routes can be readily improvised. The interchanges of freeways and similar installations (bridges and overpasses, for example) are often damaged but



NORTH
1"=16,000'

Figure 10-5 Estimated Liquefaction Potential



not readily restored. A major earthquake impacting Contra Costa County would be expected to cause widespread damage to its transportation systems. The linear elements of these systems--roads, railroad tracks, and BART tracks--necessarily cross various earthquake faults as well as areas susceptible to ground failure. Landsliding from non-earthquake causes is a recurring problem that would be intensified by ground shaking.

Critical industrial facilities are of special concern because of potential hazardous materials spillage or critical industrial processes disruption. For critical industrial facilities, seismic safety considerations must include the location of plants and storage areas, and the design and construction of industrial structures. As a result of compliance with out-of-date building codes, some existing installations need to be evaluated in light of current knowledge.

Opportunities and Constraints

Table 10-6 details the acceptable risks from seismic events relative to various types of structures by use and occupancy. This scale was developed by the California Legislature's Joint Committee on Earthquake Planning and has been adopted in most California building codes and by most California planning agencies.

Following the experience of the San Fernando Earthquake of 1971, building code provisions have strengthened many structural design criteria. However, a major deficiency in the code is the lack of strict criteria governing attachment of non-structural elements which present a danger to persons if they are dislodged during an earthquake.

The major technical impediment to the development of programs to correct hazardous structural conditions or "dangerous buildings" is the lack of a comprehensive and systematic inventory. Conventional sources of generalized structural information, such as the Federal Census of Housing and Land Use inventories for the general plan, are not adequate to make even large-area policy planning assessments of where problem structures are located, what their problems are, and how many structures are involved. Similarly, normal sources of information on individual structures are inadequate to provide the kinds of information needed for implementation and enforcement programs. In both cases, special inventories and specialized reviews of existing data sources are necessary to prepare seismic safety programs dealing with structures.

TABLE 10-6
A SCALE OF ACCEPTABLE RISKS

Level of Acceptable Risk	Kinds of Structures	Extra Project Cost Probably Required to Reduce Risk to an Acceptable Level
1. Extremely low ¹	Structures whose continued functioning is critical, or whose failure might be catastrophic: nuclear reactors, large dams, power intertie systems, plants manufacturing or storing explosives or toxic materials.	No set percentage (whatever is required for maximum attainable safety).
2. Slightly higher than under level 1	Structures whose use is critically needed after a disaster: important utility centers: hospitals, fire police, emergency communication facilities; fire stations, and critical transportation elements such as bridges and overpasses; also smaller dams.	5 to 25 percent of project cost ²
3. Lowest possible risk to occupants of the structure ²	Structures of high occupancy, or whose use after a disaster would be particularly convenient: schools, churches, theaters, large hotels, and other high-rise buildings housing large numbers of people, other places normally attracting large concentrations of people, civic buildings such as fire stations, secondary utility structures, extremely large commercial enterprises, most roads, alternative or non-critical bridges and overpasses.	5 to 15 percent of project cost ⁴
4. An "ordinary" level of risk to occupants of the structure ^{3,5}	The vast majority of structures: most commercial and industrial buildings, small hotels and apartment buildings, and single-family residences.	1 to 2 percent of project cost, in most cases (2 to 10 percent of project cost in a minority of cases) ⁴

¹ Failure of a single structure may affect substantial populations.

² These additional percentages are based on the assumption that the base cost is the total cost of the building or other facility when ready for occupancy. In addition, it is assumed that the structure would have been designed and built in accordance with current California practice. Moreover, the estimated additional cost presumes that structures in this acceptable-risk category are to embody sufficient safety to remain functional following an earthquake.

³ Failure of a single structure would affect primarily only the occupants.

⁴ These additional percentages are based on the assumption that the base cost is the total cost of the building or facility when ready for occupancy. In addition, it is assumed that the structures would have been designed and built in accordance with current California practice. Moreover, the estimated additional cost presumes that structures in the acceptable-risk category are to be sufficiently safe to give reasonable assurance of preventing injury or loss of life during any earthquake, but otherwise not necessarily to remain functional.

⁵ "Ordinary risk": Resist minor earthquakes without damage, resist moderate earthquakes without structural damage, but with some non-structural damage; resist major earthquakes of the intensity or severity of the strongest experienced in California, without collapse, but with some structural as well as non-structural damage. In most structures, it is expected that structural damage, even in a major earthquake, could be limited to repairable damage. (Structural Engineers Association of California).

Source: Meeting the Earthquake Challenge, Part 1, p. 9.

The Post-Earthquake Recovery and Redevelopment Advisory Group to the Legislature's Joint Committee on Seismic Safety has made a series of recommendations which suggest control mechanisms that can be instituted prior to an earthquake, and which will go into effect automatically in the post-earthquake period to provide a framework for reconstruction and redevelopment. The objectives of these recommendations are to minimize recovery problems and maximize the degree of seismic safety afforded to future generations inhabiting the affected area.

Evaluation Of Existing Plans, Policies and Regulations

This advisory group has recommended that counties and cities provide for post-disaster conditions in the General Plans. First, jurisdictions need to ensure that proper consideration be given to changes in land use in areas that are heavily damaged by future earthquakes. The planning staff should develop contingency procedures for immediate updating of the General Plan for areas that are heavily damaged by a severe earthquake. Additionally, it is suggested that contingency redevelopment be considered in preparing or updating area plans.

The most expeditious results from this program can be gained through the process of public reviews for both public and private projects because they rely to a substantial extent on the project sponsor to respond to the findings of studies prepared for the project. The basic recommendation is that the Safety Element be utilized to its fullest in performing project reviews. It is intended to guide public and private planning for development and public works, emergency operations, post-disaster recovery assistance, and redevelopment. The policies are suggested for consideration by all public, private, and utility agencies in the County which impact on, or can improve the state of public safety, guide public and private planning for development and for public works, emergency operations, post-disaster recovery assistance, and redevelopment. The policies are suggested for consideration by all public, private, and utility agencies in the County which impact on, or can improve, public safety.

The purpose of the preceding discussion has been to make observations and preliminary estimates of the prevalence, location and degree of hazard posed by certain types of existing structures and facilities. Furthermore, it is intended to indicate the scope, direction and magnitude of the subsequent review of individual facilities. It is apparent that the highest priority should be given to (a) critical structures (including industrial facilities and high occupation buildings) that are sited in

hazardous fault zones, in areas subject to seismically-triggered flooding, and in marshland areas; (b) building types that are known to be hazardous; (c) older structures which have not had the benefit of seismic design provisions.

SEISMIC HAZARD GOALS

- 10-A. To protect human life and reduce the potential for serious injuries from earthquakes; and to reduce the risks of property losses from seismic disturbances which could have severe economic and social consequences for the County as a whole.
- 10-B. To reduce to a practical minimum injuries and health risks resulting from the effects of earthquake ground shaking on structures, facilities and utilities.
- 10-C. To protect persons and property from the life-threatening, structurally and financially disastrous effects of ground rupture and fault creep on active faults, and to reduce structural distress caused by soil and rock weakness due to geologic faults.
- 10-D. To reduce to a practical minimum the potential for life loss, injury, and economic loss due to liquefaction-induced ground failure, levee failure, large lateral land movements toward bodies of water, and consequent flooding; and to mitigate the lesser consequences of liquefaction.

SEISMIC HAZARD POLICIES

- 10-1. Contra Costa County, as part of an area with high seismicity, shall recognize that a severe earthquake hazard exists and shall reflect this recognition in its development review and other programs.
- 10-2. Significant land use decisions (General Plan amendment, rezoning, etc.) shall be based on a thorough evaluation of geologic-seismic and soils conditions and risk.
- 10-3. Because the region is seismically active, structures for human occupancy shall be designed to perform satisfactorily under earthquake conditions (see Table 10-6).
- 10-4. In areas prone to severe levels of damage from ground shaking (i.e., Zone IV on Map 10-4), where the risks to life and investments are sufficiently high, geologic-seismic and soils studies shall be required as a precondition for authorizing public or private construction.
- 10-5. Staff review of applications for development permits and other entitlements, and review of applications to other agencies which are referred to the County, shall include appropriate recommendations for seismic strengthening and detailing to meet the latest adopted seismic design criteria.
- 10-6. Structures for human occupancy, and structures and facilities whose loss would substantially affect the public safety or the provision of needed services, shall not be erected in areas where there is a high risk of severe damage in the event of an earthquake.

- 10-7. The County should encourage cooperation between neighboring government agencies and public and private organizations to give appropriate attention to seismic hazards to increase the effectiveness of singular and mutual efforts to increase seismic safety.

Groundshaking Policies

- 10-8. Ground conditions shall be a primary consideration in the selection of land use and in the design of development projects.
- 10-9. In areas susceptible to high damage from ground shaking (i.e., Zone IV on Map 10-4), geologic-seismic and soils studies shall be required prior to the authorization of major land developments and significant structures (public or private).
- 10-10. Policies regarding liquefaction shall apply to other ground failures which might result from groundshaking but which are not subject to such well-defined field and laboratory analysis.

Faults and Fault Displacement Policies

- 10-11. Classify as active those faults which have ruptured the ground surface during Holocene geologic time, roughly the last 10,000 years. Classify as potentially active faults which displace Quaternary geologic units, those formed during approximately the last 2 to 3 million years.
- 10-12. Prohibit construction of structures for human occupancy, and structures whose loss would affect the public safety or the provision of needed services, over the trace of an active fault.
- 10-13. In areas where active or inactive earthquake faults have been identified, the location and/or design of any proposed buildings, facilities, or other development shall be modified to mitigate possible danger from fault rupture or creep.
- 10-14. Preparation of a geologic report shall be required as a prerequisite before authorization of public capital expenditures or private development projects in areas of known or suspected faulting.
- 10-15. To the extent practicable, the construction of structures requiring a high degree of safety and other critical structures shall not be allowed in an active or potentially active fault zone.
- 10-16. When such a critical structure must be located in a fault zone, the structure shall be carefully sited, designed and constructed to withstand the anticipated earthquake stresses.
- 10-17. Locate roads, particularly those which carry important utilities or large volumes of traffic, over active faults only where other alternatives are impractical.

Liquefaction Policies

- 10-18. This General Plan shall discourage urban or suburban development in areas susceptible to high liquefaction dangers and where appropriate subject to the policies in 10-20 below, unless satisfactory mitigation measures can be provided, while recognizing that there are low intensity uses such as water-related recreation and agricultural uses that are appropriate in such areas. (For the Bethel Island Area, the adopted specific plan policies will apply.)
- 10-19. To the extent practicable, the construction of critical facilities, structures involving high occupancies, and public facilities shall not be sited in areas identified as having a high liquefaction potential, or in areas underlain by deposits classified as having a high liquefaction potential.
- 10-20. Any structures permitted in areas of high liquefaction danger shall be sited, designed and constructed to minimize the dangers from damage due to earthquake-induced liquefaction.
- 10-21. Approvals to allow the construction of public and private development projects in areas of high liquefaction potential shall be contingent on geologic and engineering studies which define and delineate potentially hazardous geologic and/or soils conditions, recommend means of mitigating these adverse conditions; and on proper implementation of the mitigation measures.

SEISMIC HAZARD IMPLEMENTATION MEASURES

- 10-a. Require that structures intended for human occupancy are adequately set back from active and potentially active fault traces. Ensure that minimum setbacks take into account the varying degrees of seismic risk and the consequences of failure.
- 10-b. Utilize the land in the setback zones along active and potentially active fault traces for open forms of land use that could experience displacement without endangering large numbers of people or creating secondary hazards. Examples are yards, greenbelts, parking lots, and non-critical storage areas.
- 10-c. Require comprehensive geologic and engineering studies for any critical structure, whether or not it is located within a Special Studies Zone.
- 10-d. Through the environmental review process, require geologic, seismic, and/or soils studies as necessary to evaluate proposed development in areas subject to groundshaking, fault displacement, or liquefaction.
- 10-e. Evaluate and, where necessary, upgrade water distribution, sewage disposal, gas and electricity, communications and other service facilities in areas subject to seismic hazards.
- 10-f. Evaluate and upgrade hospitals, bridges, major roads, and other essential structures to be able to withstand seismic hazard.
- 10-g. Establish a clearinghouse for vital service records and distribution system design plans.

- 10-h. In areas that could become isolated in the event of a major earthquake, ensure that adequate medical aid, water supply, waste disposal, and other public health and safety services are available.
- 10-i. Adopt ordinance code provisions related to the repair or replacement of unreinforced masonry structures.
- 10-j. Prepare an inventory of post-disaster public facilities to be used for emergency shelter and gathering places.
- 10-k. Authorize the Community Development Department to immediately begin updating the general plan in areas which are heavily damaged by a severe earthquake.
- 10-l. Develop ordinances incorporating existing Board of Supervisors' policy on administering the Alquist Priolo Special Studies Zone Act.

10.7 GROUND FAILURE AND LANDSLIDE HAZARDS

INTRODUCTION

The major geologic hazards in Contra Costa County, aside from earthquake rupture and direct effects of ground shaking, are unstable hill slopes and reclaimed wetlands and marsh fill areas. Slopes may suffer landslides, slumping, soil slips, and rockslides. Reclaimed wetlands, whether filled or not, experience amplified lateral and vertical movements which can be damaging to structures, utilities, and transportation routes and facilities.

Landslides and other ground failures occur during earthquakes, triggered by the strain induced in soil and rock by the groundshaking vibrations, and during non-earthquake conditions, most frequently during the rainy season. Both natural and man-made factors contribute to these slope failures. Contra Costa County's damage costs after a large earthquake could be high in proportion to the State as a whole because of its large area of hilly terrain and high proportion of recent, poorly consolidated geologic formations which are prone to slope failure.

Ground failure occurs when stresses in the ground exceed the resistance of earth materials to deformation or rupture. This instability can be triggered by earthquake shaking, which instantaneously places high stresses on earth materials by loss of soil strength due to saturation or seismic shaking. Ground failure can also be triggered by man-made changes, such as loading a steep slope or unstable soils.

The manifestations of ground failure are complex and highly variable; they include numerous varieties of landslides, sloughing, liquefaction, ground cracking, lurching, lateral spreading, subsidence and differential settlement. Whether ground failure may occur, and the type of ground failure that may develop, depend on the topographic, geologic, and hydrologic characteristics of the ground, as well as the extent of ground shaking.

Important effects of ground failure in addition to direct life and structure loss and injuries, include loss of access for emergency services and repairs at important facilities which are accessed by traversing unstable ground, and the potential release of hazardous materials from containment facilities.

Landslides are perhaps the most common form of ground failure that is not caused by earthquakes. In areas where a severe slope stability problem exists, landslide damage can best be avoided by simply not building on the unstable ground. In some landslide-prone areas, landslides can be totally removed or stabilized. Through good planning and careful, controlled design, landslide losses can be all but eliminated.

Although landslides due to slope failure are most frequent in "wet years" with above-average rainfall, they can occur at any time. Landslides may also occur on slopes of 15 percent or less; however, the probability is greater on steeper slopes, with old landslide deposits being the most likely to experience failure.

Slope failures are not expected to produce a disaster affecting hundreds or thousands of persons in the County. Rather, there is a persistent risk of damage to public and private property including individual residences, roads, canals and reservoirs, and other facilities. On a county-wide basis, the two most important factors influencing the performance of slopes are the nature of the bedrock or surficial deposits and the slope angle. However, there are a number of other factors which have a profound effect on the stability of a particular hillside. For example, the presence or absence of deep-rooted vegetation; surface and subsurface drainage conditions; thickness and engineering characteristics of soils and underlying weathered, partially decomposed rock; orientation of bedding; or locally high rainfall can exert a controlling effect on the intensity of natural processes occurring on a particular hillside.

County General Plans historically have recognized that major slope areas in excess of 26 percent are "not readily developable" and "undevelopable," recognizing the cost and engineering difficulties of grading steep slopes as well as their inherent unsuitability. This development limit in general agrees with customary limits throughout the Bay Area, and varies only slightly from the 30 percent standard reference developed by the State Division of Mines and Geology as the maximum developable slope. This is a state-wide reference which does not reflect special conditions such as clayey soils prevalent in Contra Costa County.

Landslides and ground slippages are another form of ground failure which may be precipitated by significant ground motion produced by earthquakes. Areas that are subject to slides and slippages from other natural causes may be very hazardous under earthquake conditions. This is also to say that earthquake effects will be more extensive if a major earthquake occurs during the rainy season when ground conditions are favorable to landsliding and ground slippage.

Whether a landslide will or will not occur at any specific, presently stable slope usually cannot be predicted under "natural conditions" because of the range of natural conditions and changes which occur with time. However, land which has experienced landsliding in the past is believed to be generally more slide-prone, and also is more sensitive to man-induced changes, such as grading, watering, removing or changing the type of vegetation, and changing drainage patterns, among many possible factors.

Many old landslides reach a position of static stability that may be lost as a result of earthquake shaking. The nearer to "equilibrium" condition the land is during normal conditions, the more likely the equilibrium (stable condition) will be lost during earthquake shaking. It should be noted again, however, that equilibrium may prevail under natural conditions at some times, yet be reduced to marginal stability or instability with different, natural or changed, conditions. Slight changes in equilibrium may result in slow, barely recognizable, landslide movement, and/or movement which periodically occurs under unfavorable conditions. Some landslides can be "turned on and off" by allowing groundwater levels to rise or fall, or by changing the mass of material in a particularly sensitive part of the landslide.

Map of Slopes and Landslide Hazard Areas

Maps showing degree of slope, landslides, landslide deposits, and relative slope stability (or instability) have been produced by several State, regional, and federal agencies; several such maps cover parts of Contra Costa County, and others, cover areas as large as the entire nine-County Bay Area. These maps and studies are referenced in the bibliography.

Figure 10-6 shows the general locations where landslide deposits are prevalent, based on U.S. Geological Survey landslide maps. Figure 10-7 illustrates in a general fashion the areas of the County where the prevailing slopes are 26 percent or over. Neither of the maps is definitive on a site-specific basis, but they do present an overview of stability and slope conditions for large areas. They are not a substitute for site-specific engineering geology and soils investigations. Nevertheless, several of the maps, especially those that are based on field-checked aerial photograph study, are valuable tools for preliminary assessments of the intensity or type of more detailed future investigations required for site development.

GROUND FAILURE AND LANDSLIDE HAZARD GOALS

- 10-E. To minimize the risk of loss of life or injury due to landslides, both ordinary and seismically-induced.
- 10-F. To reduce economic losses and social disruption from landslides, both ordinary and seismically-induced.

GROUND FAILURE AND LANDSLIDE HAZARD POLICIES

- 10-22. Slope stability shall be a primary consideration in the ability of land to be developed or designated for urban uses.
- 10-23. Slope stability shall be given careful scrutiny in the design of developments and structures, and in the adoption of conditions of approval and required mitigation measures.
- 10-24. Proposed extensions of urban or suburban land uses into areas characterized by slopes over 15 percent and/or generally unstable land shall be evaluated with regard to the safety hazard prior to the issuance of any discretionary approvals. Development on open hillsides and significant ridgelines throughout the County shall be restricted, and hillsides with a grade of 26 percent or greater shall be protected through implementing zoning measures and other appropriate actions.

- 10-25. Subdivision of rural lands outside planned urban areas down to the allowed minimum parcel size shall be discouraged, if the parcels are within, or only accessible through, geologically unstable areas.
- 10-26. Approvals of public and private development projects in areas subject to slope failures shall be contingent on geologic and engineering studies which define and delineate potentially hazardous conditions and recommend adequate mitigation.
- 10-27. Soil and geological reports shall be subject to the review and approval of the County Planning Geologist.
- 10-28. Generally, residential density shall decrease as slope increases, especially above a 15 percent slope.
- 10-29. Significant hillsides with slopes over 26 percent or more shall be considered unsuitable for types of development which require extensive grading or other land disturbance.
- 10-30. Development shall be precluded in areas when landslides cannot be adequately repaired.
- 10-31. Subdivisions approved on hillsides which include individual lots to be resold at a later time shall be large enough to provide flexibility in finding a stable buildable site and driveway location.
- 10-32. The County shall not accept dedication of public roads in unstable hillside areas, or allow construction of private roads there which would require an excessive degree of maintenance and repair costs.

GROUND FAILURE AND LANDSLIDE HAZARD IMPLEMENTATION MEASURES

- 10-m. Prepare administrative maps at a scale of 1" = 2 miles for the County which indicate relative geologic (slope) stability, based upon the six categories recommended by the U.S. Geologic Survey.
- 10-n. Analyze the slope failure records of the Building Inspection Department and U.S. Geological Survey and recommend any needed improvements in the County's grading ordinance.
- 10-o. Consider adoption of a hillside preservation ordinance in order to implement the policies of the Safety Element and other elements of the General Plan.
- 10-p. Refer development proposals in areas of potential land instability or geologic hazards to a registered engineering geologist for review and recommendation.
- 10-q. Through the environmental review process, require geologic and engineering studies as necessary to evaluate proposed development in areas subject to potential landslide hazards.
- 10-r. General Plan amendment requests which involve parcels with slopes of over 15 percent shall be accompanied by a geological/soils report.



NORTH
1"=16,000'

Figure 10-6 Geological (Landslide) Hazards



LEGEND:



LANDSLIDE DEPOSITS

RECLAIMED AREAS

FILLED RECLAIMED AREAS

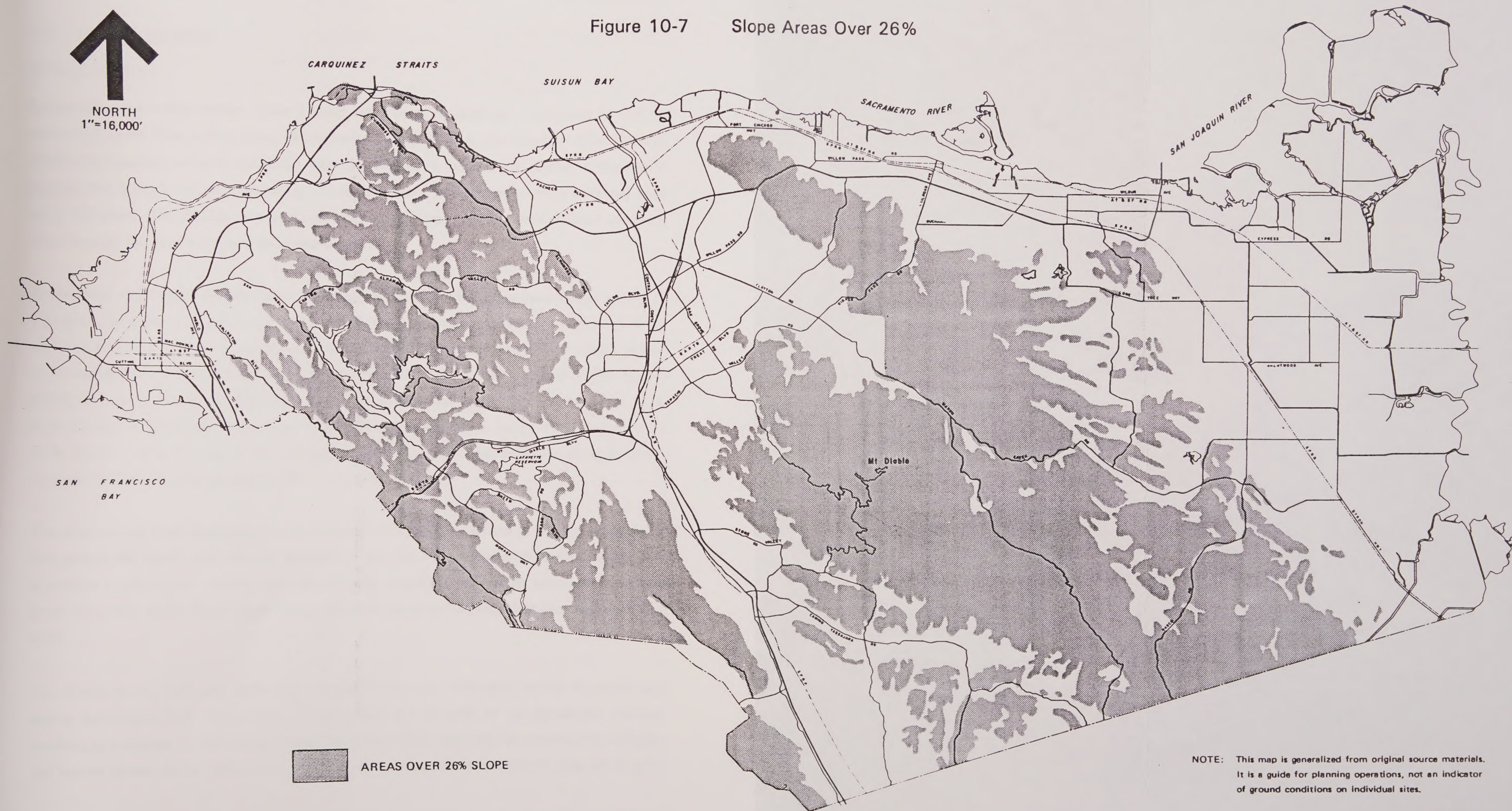
Note: This map is generalized from original source materials. It is a guide for planning operations, not an indicator of ground conditions on individual sites.

Source: U.S. Geological Survey and the Contra
Costa County Community Development Department 1975



NORTH
1"=16,000'

Figure 10-7 Slope Areas Over 26%



NOTE: This map is generalized from original source materials. It is a guide for planning operations, not an indicator of ground conditions on individual sites.

CONTRA COSTA COUNTY CALIFORNIA

10.8 FLOOD HAZARDS

INTRODUCTION

Substantial areas within Contra Costa County are subject to flooding. According to records maintained by the Federal Emergency Management Agency (FEMA), the majority of the County's creeks and shoreline areas lie within the 100-year flood plain, i.e., an area subject to flooding in a storm that is likely to occur (according to averages based upon recorded measurements) once every 100 years. The FEMA records are maintained as a means of determining flood insurance rates through the National Flood Insurance Program.

In the West and Central County, these areas include portions of the shoreline in the vicinity of Richmond, Hercules, Rodeo, Crockett, Port Costa, and Martinez; most creeks in urbanized areas, including Concord, Walnut Creek, and the San Ramon Valley; and reservoirs and creeks located on undeveloped East Bay Regional Park District (EBRPD) and East Bay Municipal Utility District (EBMUD) lands. In the East County, substantial acreage lies within the 100-year flood plain, including Bethel Island, the Veale Tract, Holland Tract, Franks Tract, Jersey Island, and the area in the Byron vicinity. Portions of the Pittsburg, Antioch, and Brentwood areas, as well as a number of creeks in East County, are also subject to flooding.

The most serious flood hazard that exists in Contra Costa County relates to the system of levees that protect the islands and adjacent mainland in the San Joaquin-Sacramento River Delta area in eastern Contra Costa. Levees are basically long, continuous dams that keep water out of a lower area, such as the Delta islands, many of which are at an elevation just above or below sea level.

The islands in the California Delta were drained during the nineteenth century to create high quality agricultural land. Since then, the peat-laden soil of many of the islands has oxidized, resulting in a sinking of their island floors and consequently requiring the construction of higher and heavier levees. Levee failure occurs in some areas where levees rest on soft mud, silt, or peat.

The islands continue to flood. In general, the islands have been reclaimed after each flood. However, Franks Tract State Park, essentially a lake east of Bethel Island, and the Big Break area of water north of Oakley, are visible reminders that it is not always practical or economical to

reclaim flooded lands. Flooding problems in the Delta area have also been exacerbated by boat movement (primarily recreational) on the waterways which causes waves that accelerate the natural process of levee erosion.

The threat of levee failure during periods of high water is constant. In the years 1973, 1980, 1982, 1983, and 1986, one or more Delta island levees failed or were overtopped, and some of these events were summer breaks that did not occur at times of high storm runoff. Some islands in the Delta have been flooded two or three times since 1980.

The possibility that flooding will occur on the islands in the Delta is greatly increased by two ongoing, natural processes, which compound the dangers that periodic high tides or strong winter storms may breach a portion of the existing levee system. The two natural processes which impact the integrity of the levee are rising sea levels, caused by the world-wide "greenhouse effect," and "subsidence."

The **greenhouse effect** is a phenomenon that is projected to cause a rise in sea level over the next century, thus creating potential flooding problems. Hydrologists estimate the rate of rise may increase from the present one-half foot per century to approximately two to eight feet. The anticipated rise is believed to be caused by warming of the global climate due to accumulation in the atmosphere of gases such as carbon dioxide, methane, and chlorofluorocarbons which result from fossil fuel burning and deforestation of tropical rain forests. Since many factors affect global climates, the rate of change over a relatively short time-period, even a century, is very difficult to establish. The U.S. Environmental Protection Agency suggests that a rate of four feet per century be assumed for planning purposes for the San Francisco Bay Area. It is important to note that the existing FEMA flood hazard maps do not include the greenhouse effect in their potential flooding analysis.

In Contra Costa County, **subsidence** is caused by the natural process of oxidation of island peat soils, resulting in a gradual sinking of the ground. As many of the islands in the Delta (along with their levees) sink in elevation, the levees that protect the island's agricultural and/or residential uses must be raised and reinforced by adding more earth fill to the top of the levees. Recent evidence indicates that many islands have experienced significant subsidence over the last several decades. For example, it is estimated that Webb Tract in Contra Costa County has subsided up to 17 feet,

and Bacon Island adjacent to Contra Costa County has subsided approximately 14 feet. Most reclaimed portions of the Delta in the County have subsided at least 10 feet. Areas that have experienced a measurable amount of subsidence are illustrated in Figure 10-8, Flood Hazards Map included in a later section of this chapter. These areas are highly susceptible to flooding.

A number of causes for subsidence have been identified. The oxidation-decay and shrinkage of peat and other soils which are rich in organic matter and fine clay particles may be the largest contributor to the problem. However, the withdrawal of shallow ground water for surface drainage may also cause surface compaction and/or soil shrinkage, which results in a loss of elevation. There is also evidence that the pumping of groundwater, oil, or gas supplies from underneath several of the islands may be contributing to the natural consolidation and subsidence. Natural "tectonic" subsidence may also be contributing to the problem.

There are great difficulties involved in estimating the amounts and rates of subsidence from island to island in the Delta, since subsidence changes the elevation of bench marks, the survey points from which elevations are determined. It is first necessary to establish elevation control from stable areas outside the Delta, which requires very long survey lines. Recent work is concentrating on the use of an unmanned space satellite as a "survey platform" from which to study changes in elevations.

The consequence of subsidence and the possibility of sea levels rising due to the greenhouse effect is the increased potential that levees will fail and tidewater and high river water will inundate farmed and populated areas in the Delta. The California Delta in Contra Costa and in the adjoining counties has historically been devoted to agriculture and its population has remained small. However, growing commercial recreation and residential uses, as evidenced by the success of year-round subdivisions such as Discovery Bay, are leading to increases in the permanent population of the area. It will become increasingly more important, but also more difficult, for the County to provide adequate flood protection to residents and businesses in the Delta area. New urban development should be allowed only if long term, year-round flood protection can be provided to the area.

Allowing more residential and commercial development on or near the islands of the Delta increases the disaster potential of subsidence and flooding when levees fail. Approving land uses

in the Delta area that support significant new populations must be carefully measured in terms of the potential loss of lives and property that could occur in the event of a major flood. The economic consequences of certain development should also be studied.

Seismicity presents additional special problems in the Delta. Delta levees are, in places, underlain by sands that are susceptible to ground failures including liquefaction during an earthquake. Strong earthquake shaking can cause the entire levee foundation to lose strength, leading to levee failure. Many levees are themselves constructed of liquefiable sand.

According to a report prepared for the East Bay Municipal Utility District, whose aqueduct pipes cross the Delta, twelve separate faults are capable of causing ground motion sufficient to cause liquefaction, requiring accelerations on the order of 7 to 27 percent of gravity (0.07 to 0.27g), with shaking lasting from about 5 to 23 seconds. A 1985 study by a State Department of Water Resources geologist noted levee slips and cracks from five recent earthquakes, some as distant as 150 miles away from Contra Costa County. A large nearby earthquake could cause a number of simultaneous levee failures, making repairs difficult because the levees are the only land access to many points following a levee break.

In addition to the flooding hazards associated with levee failure caused by an earthquake, fault ruptures or ground shaking during an earthquake can cause the collapse of dams, as well as seiche and tsunami ("tidal waves").

Dam safety is regulated by the State Department of Water Resources, Division of Safety of Dams. All large reservoirs in the County have been investigated and many have been strengthened. Further, the Office of Emergency Services has produced inundation maps and emergency plans covering various scenarios of dam failure in the County.

The safety of small dams, which are mostly used for stock watering and other agricultural activities, is largely a private concern, with present standards set by the County Grading Ordinance. Many small dams predate even this regulation. However, seismic activity is not considered a significant hazard to small dams.

Tsunamis are sea waves created by undersea fault movement. Traveling through the deep ocean, a tsunami wave is a broad, shallow, and fast moving wave. When it reaches the coastline, the wave form pushes upward from the ocean bottom and becomes a high swell of water that breaks and washes inland with great force. The waves may reach fifty feet in height on unprotected coasts, and one recorded tsunami (in Japan in 1896) killed nearly 30,000 people and destroyed over 10,000 homes. Several people were drowned in Crescent City, California, in 1964 by the tsunami generated by the "Good Friday" Alaska earthquake.

Historic records of the Bay Area used by one study indicate that 19 tsunamis were recorded in San Francisco Bay during the period of 1868-1968. The maximum wave height recorded at the Golden Gate Tide Gage was 7.4 feet, which may be regarded as a reasonable maximum for future events.

The available data indicate a systematic diminishment of wave height from the Golden Gate to about half that height on the shoreline near Richmond, and to nil at the head of the Carquinez Strait. Thus, the damage potential of a tsunami will tend to be greater in the Richmond area and show a general decrease toward the head of Carquinez Strait.

Flooding can also result from **seiche**, which is a long wave-length, large-scale wave action set up in a closed body of water such as a lake or reservoir. Seiche is known to occur during earthquakes, but is not well understood. No occurrences have been recorded in the Bay Area. Elongated and deep (relative to width) bodies of water seem most likely to be affected, and earthquake wave orientation may also play a role in seiche formation. Seiche can temporarily flood a shoreline in a manner similar to tsunami; however, its destructive capacity is not as great. Seiche may cause overtopping of impoundments such as dams, particularly when the impoundment is in a near-filled condition, releasing flow downstream.

Maps of Flood Hazard Areas

Figure 10-8 depicts the general location of the FEMA flood hazard areas throughout Contra Costa County. Flood Hazard Areas are those areas which have statistical chance of flooding once in 100 years. This map is not intended to be used to locate parcel-specific sites in relation to Flood Hazard Areas, but to convey the general extent and location of such areas. The map also indicates

areas of subsidence in the County, but does not presently include consideration of the greenhouse effect.

FLOOD HAZARD GOALS

- 10-G. To ensure public safety by directing development away from areas which may pose a risk to life from flooding, and to mitigate flood risks to property.
- 10-H. To mitigate the risk of flooding and hazards to life, health, structures, transportation and utilities due to subsidence, especially in the San Joaquin-Sacramento Delta area.

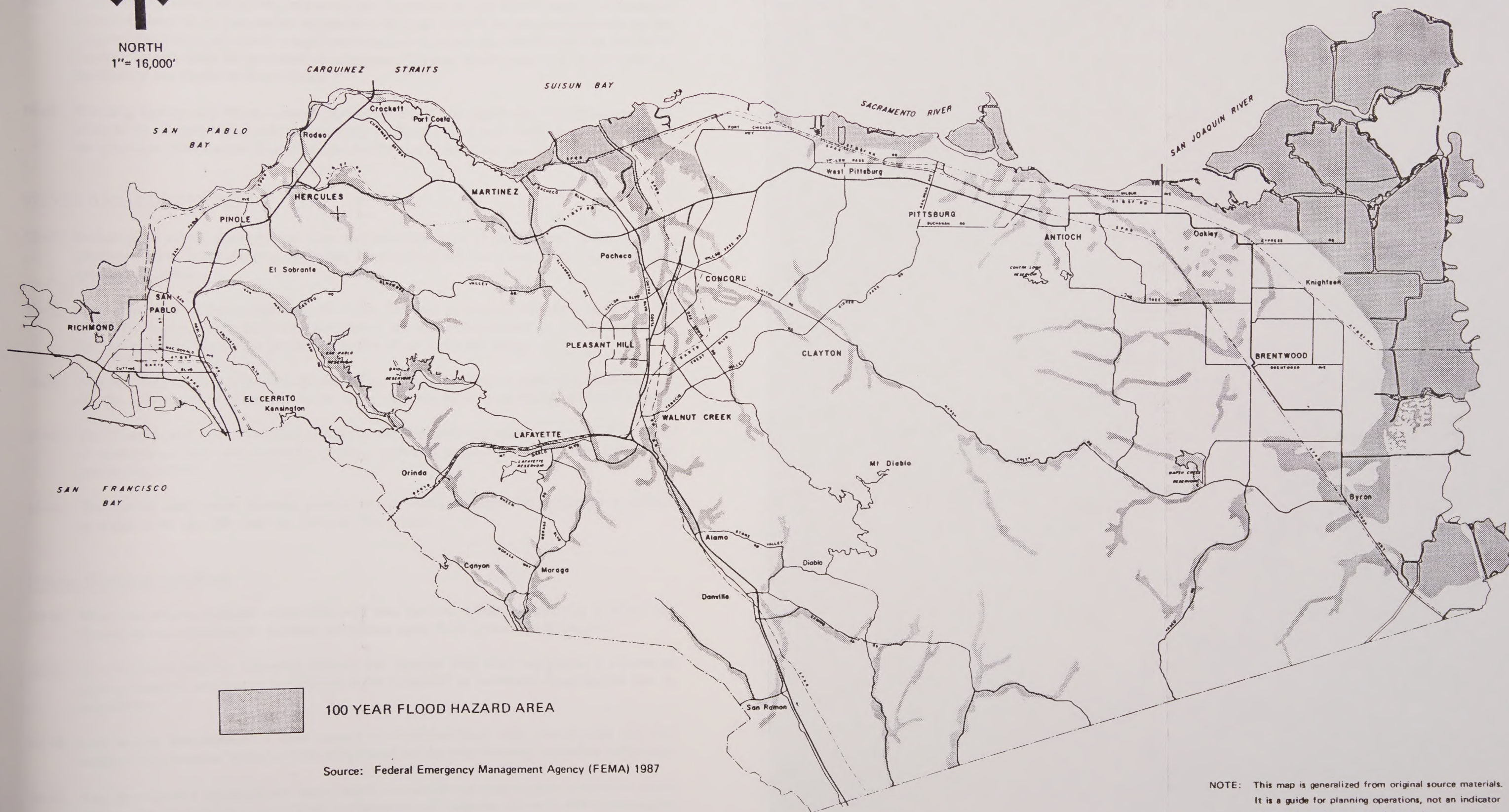
GENERAL POLICIES

- 10-33. The areas designated on Figure 10-8 shall be considered inappropriate for conventional urban development due to unmitigated flood hazards as defined by FEMA. Applications for development at urban or suburban densities in areas where there is a serious risk to life shall demonstrate appropriate solutions or be denied.
- 10-34. In mainland areas affected by creeks, development within the 100-year flood plain shall be limited until a flood management plan can be adopted, which may include regional and local facilities if needed. The riparian habitat shall be protected by providing a cross section of channel suitable to carry the 100-year flow. Flood management shall be accomplished within the guidelines contained in the Open Space/Conservation Element.
- 10-35. In mainland areas along the rivers and bays affected by water backing up into the watercourse, it shall be demonstrated prior to development that adequate protection exists either through levee protection or change of elevation.
- 10-36. On islands in East County, development shall not be allowed until a study is performed to resolve issues and determine appropriate locations for development. This study shall be a high priority for the County and should include the following:
 - o a risk assessment of development in that area; and
 - o an analysis of flooding due to runoff and tides, settlement of shallow soils, deep subsidence, liquefaction, and adequacy of insurance programs.
- 10-37. A uniform set of flood damage prevention standards should be established by the cooperative efforts of all County, State, and federal agencies with responsibilities for flood control works and development in flood-prone areas in the County.
- 10-38. Flood-proofing of structures shall be required in any area subject to flooding; this shall occur both adjacent to watercourses as well as in the Delta or along the waterfront.



NORTH
1"= 16,000'

Figure 10-8 Flood Hazard Areas



Source: Federal Emergency Management Agency (FEMA) 1987

NOTE: This map is generalized from original source materials. It is a guide for planning operations, not an indicator of ground conditions on individual sites.

- 10-39. In developing areas which are subject to the provisions of the Flood Insurance Program, for which there is no reasonable expectation of flood control project participation by the Corps of Engineers and where a significant number of properties will be affected, the Flood Control District shall be permitted to construct 100-year flood protection works when so directed by the Board of Supervisors.
- 10-40. Planning Agency and Flood Control District review of any significant project proposed for areas in the County which are not presently in Flood Zones shall include an evaluation of the potential downstream flood damages which may result from the project.

FLOOD HAZARD POLICIES

- 10-41. Buildings in urban development near the shoreline and in flood-prone areas shall be protected from flood dangers, including consideration of rising sea levels caused by the greenhouse effect.
- 10-42. Habitable areas of structures near the shore line and in flood-prone areas shall be sited above the highest water level expected during the life of the project, or shall be protected for the expected life of the project by levees of an adequate design.
- 10-43. Rights-of-way for levees protecting inland areas from tidal flooding shall be sufficiently wide on the upland side to allow for future levee widening to support additional levee height.
- 10-44. The County shall review flooding policies in the General Plan on an annual basis, in order to incorporate any new scientific findings regarding project sea level rise due to the greenhouse effect.
- 10-45. The County shall review flooding policies as they relate to properties designated by FEMA as within both the 100- and the 500-year floodplains.

Policies Regarding Subsidence

- 10-46. Whenever studies indicate subsidence is or may become a flood-threatening problem, the County should continue to monitor subsidence until flood protection is assured.
- 10-47. In accordance with the following policies, the General Plan shall not permit a substantial non-agricultural, residential population to be subjected to increased flood hazard due to subsidence.
- 10-48. Low density development of lands subject to subsidence shall take into account and fully mitigate the potential impacts of flooding based on the best currently available techniques.
- 10-49. Any development approvals for areas subject to subsidence shall include conditions which account for the need to support Delta reclamation and irrigation districts, and to strengthen weak and low levees prior to development.

- 10-50. The pumping of substantial quantities of water, oil, and gas in an area protected by levees is inconsistent with new major development approvals.

Policies Regarding Flooding Due to Levee or Dam Failure, or Tsunami

- 10-51. In order to protect lives and property, intensive urban and suburban development shall not be permitted in reclaimed areas unless flood protection in such areas is constructed, at a minimum, to the standards of the Flood Disaster Protection Act of 1973. Levees protecting these areas shall meet the standards of the U.S. Army Corps of Engineers.
- 10-52. Delta levees shall be rehabilitated and maintained to protect beneficial uses of the Delta and its water. Only those uses appropriate in areas subject to risk of flooding and seismic activity, such as agriculture and recreation, should be planned and approved. This policy shall not apply to Bethel Island or Discovery Bay.
- 10-53. Development of levee rehabilitation plans should consider methods to foster riparian habitat to the fullest extent possible consistent with levee integrity.
- 10-54. Agencies whose projects benefit from Delta levee protection, including the State and federal government (water, highway, fish and wildlife, and recreational projects), PG&E, and private railroad companies, shall participate in funding Delta levee improvements and maintenance.
- 10-55. The potential effects of dam or levee failure are so substantial that geologic and engineering investigation shall be warranted as a prerequisite for authorizing public and private construction of either public facilities or private development in affected areas.
- 10-56. Development proposals should be reviewed with reference to dam failure inundation maps, as these become available, in order to determine evacuation routes.
- 10-57. Dam and levee failure, as well as potential inundation from tsunamis and seiche, shall be a significant consideration of the appropriateness of land use proposals.
- 10-58. Dams and levees should be designed to withstand the forces of anticipated (design) earthquakes at their locations.
- 10-59. Important dams and coastal levees shall be regarded as critical facilities that should not be sited over the trace of an active or potentially active fault.
- 10-60. Structures for human occupancy, and particularly critical structures, and potentially dangerous commercial or industrial facilities (e.g., plants for the manufacture or storage of hazardous materials) shall be protected against tsunami hazard.

FLOOD HAZARD IMPLEMENTATION MEASURES

- 10-s. Revise the creek setback ordinance for residential and commercial structures in order to prevent property damages from bank failure along natural water courses.

- 10-t. Encourage the County Flood Control District to proceed with drainage improvements in areas subject to flooding from inadequate facilities, and to ensure that additional new drainage facilities, including road culverts and bridges, are designed to pass the flow specified by County Ordinance Code.
- 10-u. Develop Flood Control Zone plans based on the concepts found in this General Plan. As adopted zone plans are revised, they should be brought into conformity with these concepts.
- 10-v. Draft and adopt a flood management plan for mainland areas affected by creeks, in accordance with the guidelines contained in the Safety Element and Open Space/Conservation Element of this General Plan.
- 10-w. Conduct a study of flooding conditions on islands in East County, including a risk assessment of development in that area and an analysis of flooding due to runoff and tides, settlement of shallow soils, deep subsidence, liquefaction, and adequacy of insurance programs.
- 10-x. Establish a uniform set of flood damage prevention standards in cooperation with appropriate County, State, and federal agencies.
- 10-y. Through the environmental review process, ensure that potential flooding impacts, due to new development, including on-site and downstream flood damage, subsidence, dam or levee failure, and potential inundation from tsunamis and seiche, are adequately assessed. Impose appropriate mitigation measures (e.g. flood-proofing, levee protection, Delta reclamations).
- 10-z. Develop and implement Delta levee rehabilitation plans in cooperation with State and federal agencies and the private sector, in accordance with the policies of this General Plan.
- 10-aa. Adopt ordinances implementing the FEMA Flood Insurance Program.
- 10-ab. Prohibit new structures which would restrict maintenance or future efforts to increase the height of the levees from being constructed on top or immediately adjacent to the levees.
- 10-ac. All analysis of levee safety shall include consideration of the worst case situations of high tides coupled with storm-driven waves.

10.9 HAZARDOUS MATERIALS USES

INTRODUCTION

Contra Costa County contains extensive heavy industrial development which may be associated with hazardous materials uses along its west and north coasts, as depicted in Figures 10-9a and 10-9b. Land uses involving hazardous materials or other hazards considered in this section include airports, the Concord Naval Weapons Station, petroleum and chemical processing plants, oil and gas wells,

and petroleum product and natural gas pipelines. In addition, land uses that involve hazards to navigation are considered here.

Heavy industrial land uses centered on the west and north shores of the County have the potential to present significant risk to public safety because of the hazardous nature of some petroleum and chemical materials. Potential hazards include explosion and flammability of petroleum products and other chemicals, and chemical toxicity. Hazardous materials uses are concentrated in heavy industries along the coasts, and are also present in lesser quantities in industrial parks in the County's interior. Notwithstanding industrial safety procedures, the presence of large quantities of hazardous materials in the County, particularly close to and/or upwind of populated areas, poses a potential safety hazard at all times.

Many industrial uses in the County are located on reclaimed marshland underlain by soft, wet, unstable mud. However, damage from earth movements are believed to have a low probability of occurrence because of adequate foundation design of buildings and other structures.

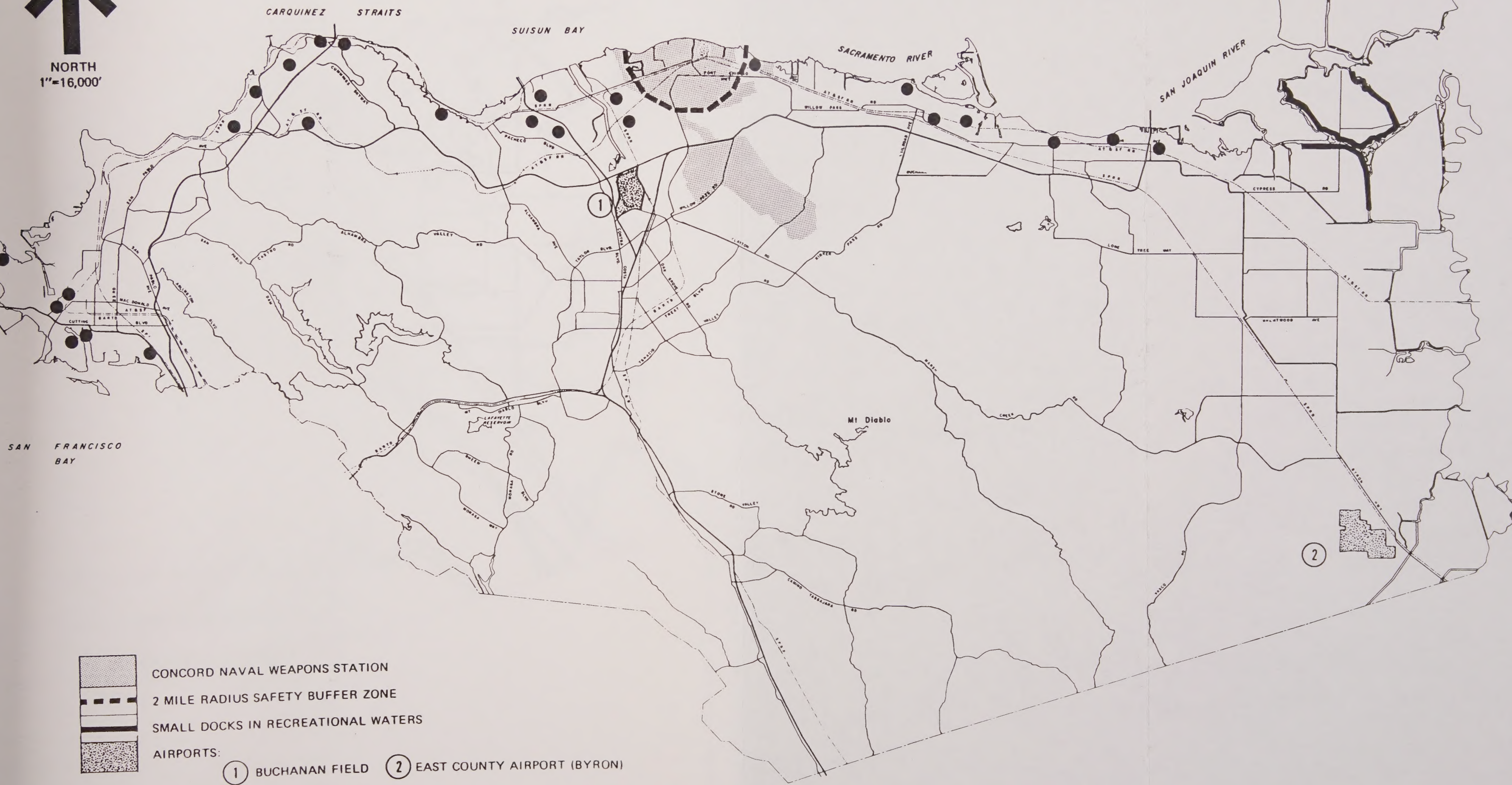
Information is not available on whether or not there are older tanks used to store hazardous materials that are not sufficiently stabilized. Informal observation of tanks in the County indicates that there is no requirement to space tanks far enough apart to prevent a fire or explosion from spreading. In areas in which tanks are closely spaced, particularly where these are close to population centers, there is a potential for a disaster affecting a significant population. Although historic accident records suggest that such a risk is low, the seriousness of the event, should it occur, indicates that some additional measure of public safety may be advisable.

Hundreds of miles of pipelines for the transportation of natural gas, crude oil, and refined petroleum products traverse Contra Costa County, including residential and commercial areas. Such pipelines cross areas with active fault lines, landslide deposits, unstable slopes, and areas underlain by soft mud and peat. The risk presented to pipelines by geologic conditions has not been quantified. The public safety hazard from a pipeline break would depend on the proximity of the accident to populated areas as well as the nature of the event that produced it (e.g., the landslide or earthquake).

Figure 10-9a Hazard Land Uses

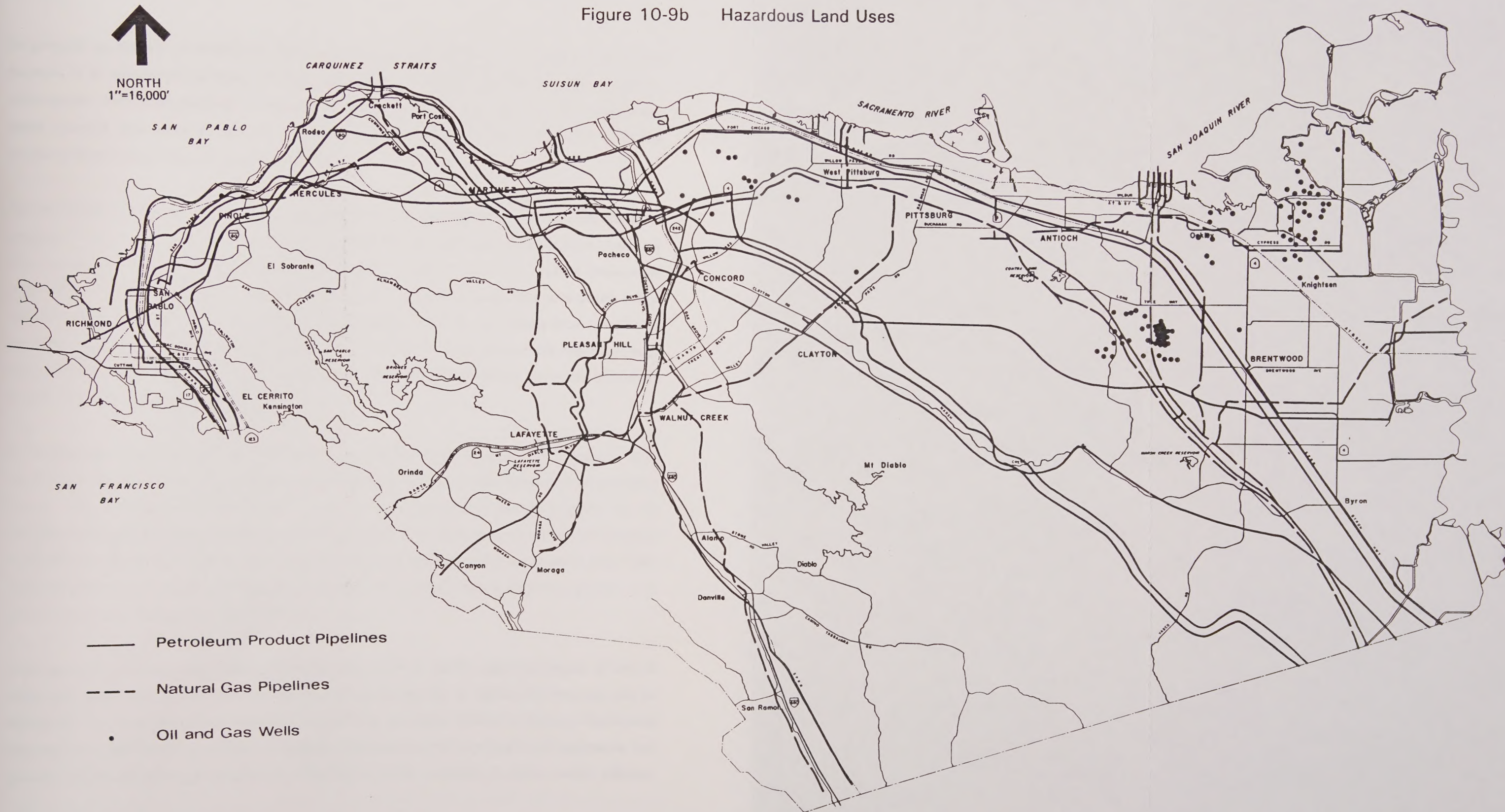


NORTH
1"=16,000'



CONTRA COSTA COUNTY
CALIFORNIA

Figure 10-9b Hazardous Land Uses



In general, natural gas is believed to be less hazardous to the public than petroleum products because it is transported at lower pressures and, when released, rises and dissipates into the atmosphere. Petroleum products are pumped at pressures up to 200 pounds per square inch and, when released, flow along the ground. Petroleum fires are also more likely to spread to nearby property than vertical-burning natural gas fires.

Several hundred active gas and oil wells are located in the County, most of which are far from populated areas. Although there is a risk of a well catching on fire, such incidents have been very few and the risk of such a fire causing a general disaster is remote. North and east of Brentwood, future parcel splits resulting in a dispersed but sizeable population could lead to a public safety hazard if rural residential areas are permitted to encroach on the gas producing area. Further, a concentrated population in proximity to the numerous wells in peat areas could expose persons and properties to peat fires which are difficult to control and may smoulder for weeks or months before they are completely extinguished.

No particular routes for hazardous materials transportation are designated in the County. Most of these materials are regularly carried on the freeways and major roads designated as explosives routes. The proximity of some of these routes to large numbers of people suggests that an accident involving hazardous materials transportation could reach disaster proportions. The extreme toxicity of some chemicals used in the County and the specialized handling and cleanup procedures required during an accident make proper information and training of local response agencies, such as the police and fire departments, essential.

A unique risk to public safety is presented by transportation in the County of quantities of various radioactive materials. In the event of an accident, small amounts of radioactive materials can be dislodged from their protective containers and become extremely difficult to locate. Emergency response to a spill involving radioactive materials requires special knowledge and equipment, and persons may be unknowingly subjected to radiation in traffic accidents or other routine mishaps.

Explosives are defined in the California Health and Safety Code (Section 25651) as any substance or combination of substances the primary purpose of which is detonation or rapid combustion. Most munitions and some chemical materials are included in the Class A explosives category regulated by the State and various bridge authorities. There are numerous users of explosive

materials in the County, but by far the largest is the Concord Naval Weapons Station (CNWS), to and from which munitions are regularly transported by truck, train and ship. Other explosives used for construction and quarrying are present in smaller amounts throughout the County.

Two major railroad companies serve Contra Costa County -- Santa Fe and Southern Pacific -- and both transport munitions for CNWS. Truck transportation of explosives through populated areas constitutes a potential significant public safety hazard. Permitted routes designated by the California Highway Patrol include the major freeways and other highways in the County. While training requirements exist for carriers of hazardous materials, including explosives, they may be unable to perform immediate remediation of emergency conditions under some situations.

The County is responsible for determining land uses and community development configuration within its jurisdiction, but does not determine the nature of substances used on industrial and military sites. Nor does the County grant permits for the use or transportation of hazardous materials, determine appropriate routes for transporting these materials, or require properly informed emergency personnel. Public safety in regard to the use and transportation of hazardous substances generally depends on actions by the State and federal governments.

In the case of land uses involving hazardous materials, the County Planning Agency can minimize public safety risks by ensuring that hazardous materials use areas and residential populations are separated to the extent that fire or explosions on industrial and military properties or in gas and oil well areas will not spread to homes or businesses. Preventing environmental releases of hazardous materials depends primarily on industrial safety requirements and procedures. By requiring that project proposals to construct tanks, pipelines, and other facilities be accompanied by thorough investigations of the natural and man-made hazards potentially affecting the proper functioning of these facilities, the County can be assured that risks are reduced to the minimum level that can be achieved by engineering technology.

Since emergency and disaster plans and procedures have been prepared by the County Office of Emergency Services (OES), it is appropriate for all potentially disastrous events to be reported to this office, so that County emergency services such as traffic control, fire and medical equipment, and evacuation notification can be available if needed. It is expected that emergency planning

issues related to air traffic congestion at the Buchanan Field airport will be relieved by the construction of the East Contra Costa County Airport.

Contra Costa County is home to numerous businesses and industries that manufacture, store, use and dispose of hazardous materials and hazardous waste. These businesses are neighbors to an increasingly urbanized population. To ensure the protection of public health and safety and the environment, it is imperative to plan for the safe and effective use of hazardous materials and the management of hazardous waste. In recent years, there has been a growing understanding of the widespread use of hazardous materials.

Contra Costa County began planning specifically for the management of hazardous materials and waste in 1983, with the establishment of the County Hazardous Waste Task Force. Most recently, the County has completed the County Hazardous Waste Management Plan, a comprehensive analysis of all aspects of hazardous waste management from generation through disposal. The plan establishes goals and policies for the safe management of hazardous waste, and recommends the establishment of programs designed to reduce hazardous waste generation by 30 to 40 percent by the year 2000. The plan, which serves as the primary planning document for hazardous waste management in the County and in the incorporated cities, projects the need for commercial hazardous waste management facilities and specifies criteria to determine whether a facility may be established.

The management of hazardous materials is the focus of the Contra Costa County Hazardous Materials Area Plan, which was adopted in January of 1988. This Plan outlines the procedures that County regulatory and response agencies will use for managing, monitoring, containing and removing hazardous materials from the site of an actual or threatened accidental release. The plan also identifies the agencies within the County responsible for the effective management of hazardous materials.

Navigational Hazards

With over 70 square miles of water and hundreds of miles of shoreline along the bays, rivers and sloughs, off-shore waters are particularly important in Contra Costa County for industrial, commercial, agricultural and recreational uses. The public right to use open water for navigation

is established in the State constitution and State law, but navigation can be hazardous if land-based activities result in obstructions such as docks, low bridges, or elevated pipelines.

Where waters are shallow for some distance from shore commercial and industrial docks are usually built out to the shipping channel as a more acceptable plan than continuously dredging a side channel closer to shore. The Corps of Engineers permit system prevents docks from encroaching into shipping channels. Small docks for commercial or private recreational use have proliferated around Bethel Island and on the mainland side of Sand Mound Slough. The U.S. Department of the Interior, noting "a plethora of uses not associated with commerce activities" on the State's waterways indicates that controls are necessary to protect the public right to use navigable waters.

It should also be recognized that because thousands of boaters use the Delta annually, many of them not skilled, the proliferation of smaller docks may be a hazard to public safety. The risk would not be of a disastrous single event, but is rather a persistent hazard probably affecting only a few persons at a time.

As previously mentioned, additional discussion of the County HWMP and related General Plan goals and policies is provided in the Public Facilities/Services Element of this document. For a listing of General Plan goals regarding hazardous waste management, the reader is directed to Section 7.12.

HAZARDOUS MATERIALS GOALS

- 10-I. To provide public protection from hazards associated with the use, transport, treatment and disposal of hazardous substances.

HAZARDOUS MATERIALS POLICIES

- 10-61. Hazardous waste releases from both private companies and from public agencies shall be identified and eliminated.
- 10-62. Storage of hazardous materials and wastes shall be strictly regulated.
- 10-63. Secondary containment and periodic examination shall be required for all storage of toxic materials.

- 10-64. Industrial facilities shall be constructed and operated in accordance with up-to-date safety and environmental protection standards.
- 10-65. Industries which store and process hazardous materials shall provide a buffer zone between the installation and the property boundaries sufficient to protect public safety. The adequacy of the buffer zone shall be determined by the County Planning Agency.
- 10-66. The County shall provide the East Contra Costa Airport which should relieve air traffic congestion at Buchanan Field.
- 10-67. To the greatest possible extent, new fuel pipelines should not be routed through centers of population nor should they cross major disaster evacuation routes.
- 10-68. In order to provide for public safety, urban and suburban development should not take place in areas where they would be subject to safety hazards from oil and gas wells. Development near oil and gas wells should meet recognized safety standards.
- 10-69. When an emergency occurs in the transportation of hazardous materials, the County Office of Emergency Services shall be notified as soon as possible.
- 10-70. Industry should be encouraged to utilize underground pipelines, rail, and water transportation of hazardous materials to the greatest extent feasible to take advantage of the greater separation from the general public provided by these modes of transportation.
- 10-71. Applications for private or commercial recreation docks which would encroach into waterways used primarily for recreation boating should be reviewed by the County to evaluate their aggregate impact upon public safety.

HAZARDOUS MATERIALS IMPLEMENTATION MEASURES

- 10-ad. Encourage the State Department of Health Services and the California Highway Patrol to review permits for radioactive materials on a regular basis and to promulgate and enforce public safety standards for the use of these materials, including the placarding of transport vehicles.
- 10-ae. Request that State and federal agencies with responsibilities for regulating the transportation of hazardous materials review regulations and procedures, in cooperation with the County, to determine means of mitigating the public safety hazard in urbanized areas.

10.10 WATER SUPPLY REQUIREMENTS

INTRODUCTION

This section of the Safety Element focuses on water supply safety issues. For a discussion of issues related to general domestic water supply, the reader is directed to the Public Facilities and Services Element of this general plan.

Water supply requirements increase during a disaster, with extra amounts being used for fire fighting, sanitation, and debris clean up. Damages to this essential supply can occur in the centralized parts of water supply systems--the intakes, canals, and major reservoirs--or at the delivery points as a result of disruption of main lines or of the many subsidiary lines to each home, school, business, or hospital.

Damage to centralized parts of the water supply system has the potential to affect thousands of persons but can be repaired relatively quickly. Loss of water in localized areas would affect fewer people, but because repair times could be long, hazards to property and safety could be greater for inhabitants of such areas. In a general or widespread disaster the water supply to several parts of the County could be disrupted for days or weeks. Although the risk of such an event is believed to be low, the seriousness of the impact on affected communities indicates that citizens, water suppliers and government agencies should be prepared to supplement water supplies for disaster recovery uses.

Large low-density areas of the County do not use water from large public systems, but instead rely on wells. These areas would be expected to have less difficulty supplying water in the event of a disaster such as an earthquake.

WATER SUPPLY GOALS

- 10-J. To ensure a continuous supply of safe water to county residents.
- 10-K. To protect the quality, quantity, and productivity of water resources as vital resources for maintaining the public, ecological and economic health of the region.
- 10-L. The safety of valuable underground water supplies for present and future users shall be ensured by preventing contamination.

- 10-M. All wells and other entrances to aquifers shall be identified and protected.

WATER SUPPLY POLICIES

- 10-72. The County shall support local, regional, State, and federal government efforts to improve water quality.
- 10-73. The County shall support water quality standards adequate to protect public health in importing areas as a priority at least equal in status to support of Bay/Delta estuary water standards.
- 10-74. Point sources of pollution shall be identified and controlled to protect adopted beneficial uses of water.
- 10-75. Public ownership of lands bordering reservoirs shall be encouraged to safeguard water quality.
- 10-76. Prohibit underground discharges of toxic liquid wastes.
- 10-77. Land use plans and major project proposals that would encourage development served by wells and septic systems shall be approved only after there are assurances of the adequacy of the aquifer and that there is minimum risk of well contamination during the rainy season.
- 10-78. Annexation of municipal or small service districts into the larger districts shall be supported when such annexations would result in water supply safety benefits to the consumers.
- 10-79. No new water districts shall be established.
- 10-80. The use of reclaimed water for industrial operations shall be encouraged.
- 10-81. Because of the public need for water of a quality suitable for domestic, industrial and agricultural uses, the County shall take an active role in reviewing regional, State and federal programs which could affect water quality and water supply safety in Contra Costa County.
- 10-82. New water storage reservoirs shall be encouraged in appropriate locations subject to adequate mitigation of environmental impacts.
- 10-83. Discourage the development of new wells for domestic use in areas with high nitrite concentrations in the ground water.

WATER SUPPLY IMPLEMENTATION MEASURES

- 10-af. A permit system shall be required for all future wells or other shafts to aquifers.
- 10-ag. Monitoring of well water quality shall be required.

- 10-ah. Develop drilling and sealing ordinances designed for protection of aquifers and the public health and welfare.
- 10-ai. Instruct the County Health Department to do a study of the nitrite groundwater problem for East County including recommendations on continued approval of new wells for residential use.
- 10-aj. Prohibit underground discharge of toxic liquid wastes through adoption of a hazardous materials ordinance or other means.
- 10-ak. Encourage local, State, and federal agencies to investigate and recommend methods of maintaining agricultural productivity with reduced amounts of toxic and nutritive chemicals which can damage water quality.
- 10-al. Encourage all water districts in their efforts to provide water supply safety for emergency and disaster uses by the most practicable means.
- 10-am. Encourage domestic water services to participate in the State Emergency Services program for county-wide coordination of emergency response planning and to take advantage of low cost purchase of auxiliary power equipment where these programs would result in greater security for domestic water supplies.
- 10-an. Encourage domestic water suppliers to undertake programs to inform homeowners, schools, convalescent hospitals, and other institutions of appropriate and efficient emergency use of available water in an immediate post-disaster recovery period.
- 10-ao. Review and evaluate regional, State, and federal programs which could affect water quality and water supply safety in the County.

10.11 PUBLIC PROTECTION SERVICES AND DISASTER PLANNING

INTRODUCTION

This section of the Safety Element includes a discussion of the essential public protection services which will provide the major work force, facilities and equipment for disaster recovery.

The Contra Costa County Office of Emergency Services prepares disaster plans for the county and coordinates required emergency services and facilities from all agencies and levels of government to meet emergency and disaster needs. While there is some overlap between this element and the Public Facilities and Services Element, the policies contained here are primarily related to disaster situations, rather than to ongoing facilities and services standards.

Aside from the emergency/disaster situations previously described in this element such as earthquakes, floods and accidental releases of hazardous materials, the Safety Element addresses the additional areas of wildfire, emergency medical response and crime prevention.

Wildfire

Fire hazards present a considerable problem to vegetation and wildlife habitats throughout the County. Grassland fires are easily ignited, particularly in dry seasons. These fires are relatively easily controlled if they can be reached by fire equipment; the burned slopes, however, are highly subject to erosion and gullyng. While brushlands are naturally adapted to frequent light fires, fire protection in recent decades has resulted in heavy fuel accumulation on the ground.

Brush fires, particularly near the end of the dry season, tend to burn fast and very hot, threatening homes in the area and leading to serious destruction of vegetative cover. While woodland fires are relatively cool under natural conditions, a brush fire which spreads to a woodland could generate a destructive hot crown fire. No suitable management technique of moderate cost has been devised to reduce the risk of brush fires.

Because the natural vegetation and dry-farmed grain areas of the County are extremely flammable during the late summer and fall, wildfire is a serious hazard in undeveloped areas and on large lot homesites with extensive areas of unirrigated vegetation. Several factors affect the relative degree of wildfire hazard, including atmospheric humidity, slope steepness, vegetation type, exposure to the sun, wind speed and direction, accessibility to human activities and accessibility to firefighting equipment. Taking these factors into consideration, a fire hazard severity scale has been devised which characterizes areas throughout the County by the number of days of moderate, high and extreme fire hazard. Mapped information on fire hazard severity is included later in this section.

Peat fires represent a special hazard in that once ignited, they are extremely difficult to extinguish. In some instances, islands have been flooded in order to extinguish peat fires. Any area lying generally east of the mean high water line may be peaty due to the marshy origin of the soil, although local areas of mineral soil are present within the general area.

Emergency Medical Response

Medical emergency services are provided by hospitals, ambulance companies and fire districts. Considerable thought and planning have gone into efforts to improve responses to day-to-day emergencies and planning for a general disaster response capability. However, certain areas remain which require improvement to enhance public safety.

Identification of streets, house numbers, and townhouse and apartment units remains a major factor hampering locating patients. Design of multi-story buildings rarely includes provision for elevators or stairways which can accommodate gurneys, which are preferred for patient transport because they allow for continuous care. In the event of a disaster, many persons could be affected.

Although substantial progress has been made in terms of earthquake restrainers being added to freeway overpasses, cities and communities with limited access to hospitals, such as Lafayette, Moraga and Orinda, are still at some risk to access blockage due to the potential for landslides or traffic accidents to temporarily close roads.

Crime Prevention

While it is not a purpose of this element to deal with crime as such, there are planning-related opportunities to aid in the efficiency of police services and incorporate crime reducing features into development projects which could enhance public safety at relatively little public cost.

Response times can be hampered by uncoordinated street naming between jurisdictions, or by conflicting street numbering between cities and the County on the same road/street name.

Defensible space is a concept which incorporates crime prevention principles into development design. This concept has already been discussed in the "Public Protection" section of the Public Facilities/Services Element.

Maps

In general, the fire hazard severity is related to distance from the marine atmospheric influences of the Pacific Ocean, intervening topography, slope steepness and vegetative type and coverage. Figure 10-10 shows these areas.

PUBLIC PROTECTION SERVICES AND DISASTER PLANNING GOALS

- 10-N. To provide for a continuing high level of public protection services and coordination of services in a disaster.

PUBLIC PROTECTION SERVICES AND DISASTER PLANNING POLICIES

- 10-84. The Office of Emergency Services, in cooperation with cities within the County, shall delineate evacuation routes and, where possible, alternate routes around points of congestion.
- 10-85. The Office of Emergency Services, in cooperation with public protection agencies, shall delineate emergency vehicle routes for disaster response, and where possible, alternate routes where congestion or road failure could occur.
- 10-86. In order to ensure prompt public protection services, dwelling unit numbers shall be required to be easily seen from the street or road.
- 10-87. In order to reduce the risk of crime at little public cost, the County shall encourage the use of citizen action programs such as Neighborhood Alert and Operation ID.
- 10-88. The County shall require adequate access for medical emergency equipment in high-occupancy buildings of over two stories.
- 10-89. Every high-rise building shall be designed and constructed to provide for the evacuation of occupants and/or for the creation of a safe environment in case of a substantial disaster, such as a severe earthquake or fire.
- 10-90. Policies related to wild land fire risk are contained in the Fire Services section of the Public Facilities Element.
- 10-91. Restrict homes built in rural areas or adjacent to major open space areas from having roofs which are covered with combustible materials.

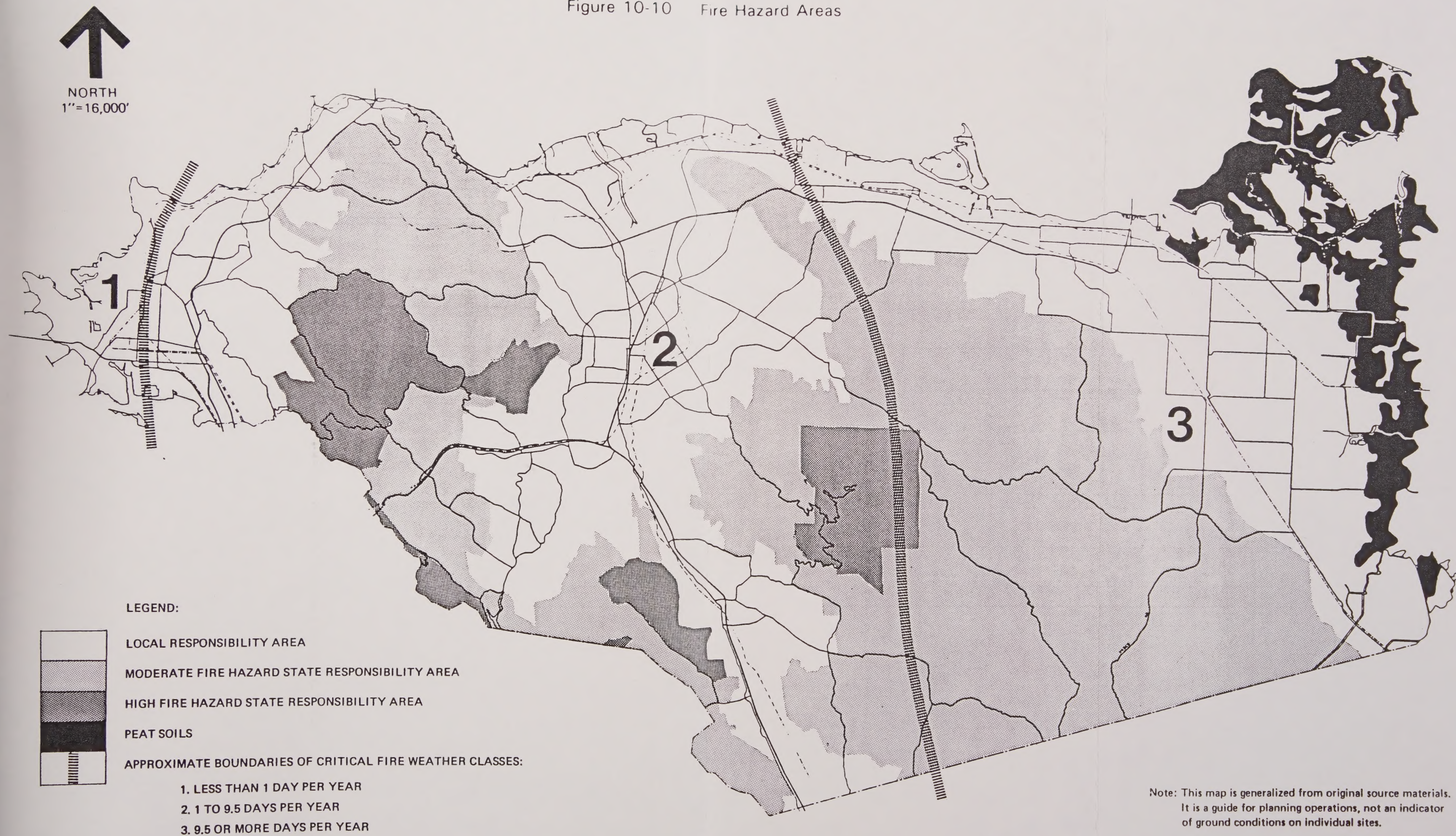
Figure 10-10 contains the characterization of fire hazard for the County by Fire Weather Classes, and delineates those areas of the County which are subject to peat fires.

The Fire Weather Classes depicted on Figure 10-10 are defined in terms of the number of days per year of Critical Fire Weather. Class 1 has 0 to 1 days per year of Critical Fire Weather, Class II has 1 to 9.5 days and class III has over 9.5 days.

PUBLIC PROTECTION SERVICES AND DISASTER PLANNING IMPLEMENTATION MEASURES

- 10-ap. Undertake a program in cooperation with cities within the County to unify street name and numbering systems.
- 10-aq. In cooperation with cities within the County and public protection agencies, delineate evacuation routes, emergency vehicle routes for disaster response and, where possible, alternative routes where congestion or road failure could occur.
- 10-ar. Development of areas identified by the criteria of the State Division of Forestry as having an Extreme Fire Hazard will be avoided where possible. Homes located in extreme or high fire hazard areas will be constructed with fire-resistant materials and the surroundings should be irrigated or landscaped with fire resistant plants.
- 10-as. Require projects which encroach into areas which are determined to have a high or extreme fire hazard, or which incorporate wildfire hazard areas, to be reviewed by the appropriate Fire Bureau to determine if special fire prevention measures are advisable.
- 10-at. Major developments will not be approved if fire fighting services are not available or are not adequate for the area.

Figure 10-10 Fire Hazard Areas



SOURCE: Fire Prevention Bureau
State of California
Department of Forestry and Fire Protection
Sacramento, CA

11. NOISE ELEMENT

TABLE OF CONTENTS

	<u>Page</u>
11.1 INTRODUCTION	11-1
11.2 RELATIONSHIP TO OTHER GENERAL PLAN ELEMENTS	11-2
11.3 RELATIONSHIP TO OTHER GENERAL PLAN DOCUMENTS	11-4
Acoustical Standards	11-4
11.4 NOISE ELEMENT ORGANIZATION	11-5
11.5 FUNDAMENTAL CONCEPTS OF ENVIRONMENTAL NOISE	11-5
Background	11-5
Frequency Weighting	11-6
Noise Exposure	11-6
Subjective Response to Noise	11-9
Combination of Sound Levels	11-11
11.6 NOISE IN CONTRA COSTA COUNTY	11-11
Overview	11-11
Ongoing Problems	11-12
Foreseeable Future Problems	11-14
11.7 NOISE CONTOURS	11-14
Methodology	11-14
Noise Contour Maps/Tables	11-15
Use of Maps/Tables	11-15
11.8 GOALS	11-42
11.9 POLICIES	11-42
11.10 IMPLEMENTATION MEASURES	11-45
Development Review	11-45
California Environmental Quality Act (CEQA) Guidelines	11-46
Zoning and Other Ordinance Amendments	11-47
Other Programs	11-47

11. NOISE ELEMENT

11.1 INTRODUCTION

Section 65302 (f) of the California Government Code requires that a noise element be prepared as a part of all city and county general plans. This State law requires that a jurisdiction's noise element identify and work toward mitigation of noise problems in the community. This Noise Element analyzes and quantifies, to the extent practical as determined by the legislative body, current and projected noise levels for all of the following sources:

- o Highways and freeways;
- o Primary arterials and major local streets;
- o Passenger and freight on-line railroad operations and ground rapid transit systems;
- o Commercial and general aviation, heliport, helistop, and military airport operations; aircraft flyovers, jet engine test stands, and all other ground facilities and maintenance functions related to airport operation;
- o Local industrial plants including, but not limited to, railroad classification (switching) yards; and
- o Other ground stationary noise sources identified by local agencies as contributing to the community noise environment.

Noise contours are shown for many of these sources and stated in terms of the day/night average sound level (DNL or L_{dn}). The noise contours are to be used to guide land uses, as specified in the Land Use Element, so that the exposure of community residences to excessive noise is minimized.

According to the Code, noise elements shall also include implementation measures and possible solutions that address any existing and perceivable noise problems. The adopted Noise Element

shall serve as a guideline for compliance with the State Noise Insulation Standards. (Title 24, Part II, CCR.)

This Noise Element follows the guidelines established by the California Department of Health Services entitled, "Guidelines for the Preparation and Content of the Noise Element of the General Plan." The State Guidelines define noise metrics, discuss the process of Noise Element development, and present land use compatibility guidelines based on various noise levels. The contents of the State's guidelines document were reviewed in preparation of this Element and the relevant portions are incorporated into this document.

11.2 RELATIONSHIP TO OTHER GENERAL PLAN ELEMENTS

The General Plan elements are important tools used by elected officials to provide policy guidance and assist in decision making. All of the elements of the General Plan are related and interdependent to some degree. However, the Noise Element is most closely related to the Land Use, Housing, Circulation, and Open Space Elements, as shown in Table 11-1.

The major objective of a noise element is to provide guidelines to achieve noise land use compatibility. The Land Use and Noise Elements, therefore, are related closely. By identifying noise-sensitive land uses and establishing compatibility guidelines for land use and noise, the Noise Element will influence the general distribution, location, and intensity of future land use. Effective land use planning can alleviate noise problems.

Residential areas are one of the noise-sensitive land uses. Therefore, the Housing Element is directly affected by the Noise Element. The Housing Element policies and programs should include safeguards against noise intrusion. The implementation of Land Use/Noise Compatibility Guidelines can reduce noise impacts in residential locations. In addition, proper noise mitigation measures during housing construction can guard against adverse noise impact.

A city's circulation system is one of the major sources of continuous noise. Therefore, the existing and future circulation system identified in the Circulation Element will influence greatly the Noise Element. Circulation routes such as freeways, highways, and truck routes should be located to minimize the noise impact on noise-sensitive land uses. The location and design of transportation

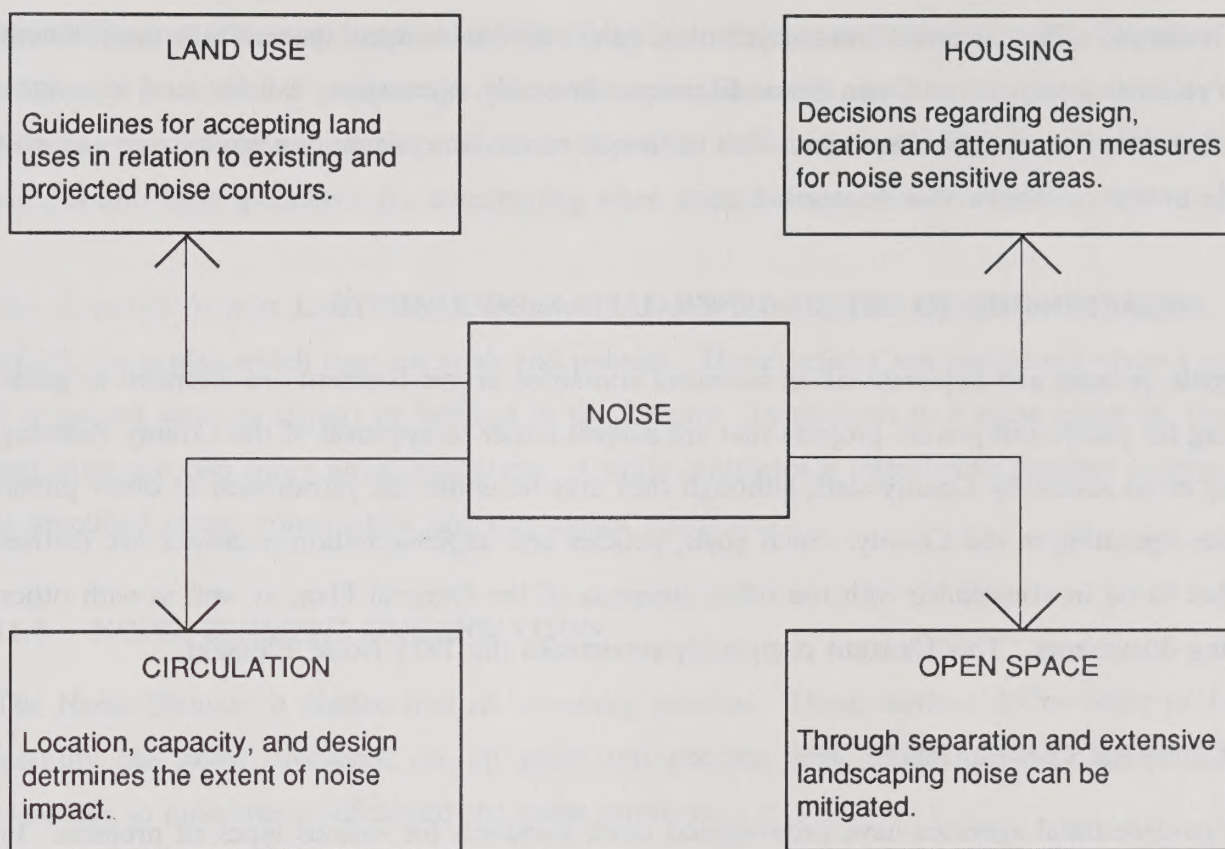


Table 11-1 RELATIONSHIP OF NOISE ELEMENT TO OTHER GENERAL PLAN ELEMENTS

facilities and possible mitigation of noise from existing and planned facilities will greatly influence the overall noise environment within the City.

Since noise can affect adversely the enjoyment of quiet activities in open space, the Noise Element is also related closely to the Open Space Element. Inversely, open space can be used as a noise buffer between incompatible land uses. This technique can reduce community noise levels and also provide usable open space for recreation.

11.3 RELATIONSHIP TO OTHER GENERAL PLAN DOCUMENTS

The goals, policies and implementation measures contained in this Element are intended to guide planning for public and private projects that are subject either to approval of the County Planning Agency or to review by County staff, although they may be under the jurisdiction of other public agencies operating in the County. Such goals, policies and implementation measures are further intended to be in accordance with the other elements of the General Plan, as well as with other planning documents. This Element completely supersedes the 1975 Noise Element.

ACOUSTICAL STANDARDS

Many governmental agencies have promulgated noise standards for various types of projects. In general, these standards are intended to protect persons from excessive exterior and interior noise. Most of these standards address vehicular traffic noise while others address rail, aircraft, or fixed sources.

The Department of Housing and Urban Development (HUD) has developed noise policies for federal housing projects. These HUD policies are contained in The Noise Guidebook. The policies contained in the guidebook discuss various outdoor noise environments and recommend acceptable interior and exterior noise level goals.

The State of California has adopted Title 21 and Title 24, Part 2, of the California Code of Regulations. Title 21 limits airport noise near residential communities to minimize existing and future land use conflicts. Title 24, Part 2, is concerned with transportation and industrial noise sources and specifically regulates the maximum allowable interior noise level for hotels, motels, and

multi-family housing. Title 24, Part 2, also establishes standards for sound isolation of party walls, corridor walls, and floor/ceiling assemblies in multi-family residential construction.

The Federal Highway Administration (FHWA) and California Department of Transportation (Caltrans) have similar policies for new roadway construction and roadway expansion. These policies contain maximum acceptable noise levels in areas adjacent to vehicular traffic. These policies also have guidelines for determining when noise barriers should be constructed.

The County's Airport Land Use Commission (ALUC) oversees development near airports. The ALUC has a plan which contains goals and policies. These policies are considered when a project is proposed near an airport or heliport in the County. In addition to a noise element, counties and cities can also adopt noise ordinances. A noise ordinance is intended to regulate sources such as amplified music, construction and mechanical equipment.

11.4 NOISE ELEMENT ORGANIZATION

The Noise Element is divided into six remaining sections. These sections define noise problems; quantify the noise problems; set up goals and policies; and, finally, provide implementation measures to minimize or eliminate the noise problems.

11.5 FUNDAMENTAL CONCEPTS OF ENVIRONMENTAL NOISE

BACKGROUND

Three aspects of community noise are important in determining subjective response:

- o The level of the sound (i.e., magnitude or loudness);
- o The frequency composition or spectrum of the sound; and
- o The variation in sound level with time.

Airborne sound is a rapid fluctuation of air pressure and local air velocity. Sound levels are measured and expressed in decibels (dB) with 0 dB roughly equal to the threshold of hearing.

The frequency of a sound is a measure of the pressure fluctuations per second, measured in Hertz (Hz). Most sounds do not consist of a single frequency, but are comprised of a broad band of

frequencies differing in level. The characterization of sound level magnitude with respect to frequency is the sound spectrum. A sound spectrum is often described in octave bands that divide the audible human frequency range (i.e., from 20 to 20,000 Hz) into ten segments. Figure 11-1 shows a range of sound spectra for various types of sound over the audible hearing range.

FREQUENCY WEIGHTING

Many rating methods exist to analyze sound of different spectra. Generally, the simplest method is used so that measurements may be made and noise impacts readily assessed using basic acoustical instrumentation. This method evaluates all frequencies by using a single weighting filter that progressively de-emphasizes frequency components below 1000 Hz and above 5000 Hz. This frequency weighting, shown in Figure 11-2, reflects the relative decreased sensitivity of humans to both low and extremely high frequencies. This weighting is called A-weighting and is applied by an electrical filter in all U.S. and international standard sound level meters. Some typical A-weighted sound levels are presented in Figure 11-3.

NOISE EXPOSURE

Noise exposure is a measure of noise over a period of time, whereas the noise level is at an instant in time. Although a single sound level may describe adequately community noise at any moment, community noise levels vary continuously. Most community noise is produced by many distant noise sources that produce a relatively steady background noise having no identifiable source. These distant sources change gradually throughout the day and include traffic, wind in trees, and distant industrial activities. Superimposed on this slowly varying background is a succession of identifiable noise events of brief duration. These include nearby activities, such as single vehicle passbys or aircraft flyovers.

A single number called the equivalent sound level (L_{eq}) is used to describe the average noise level over a period of time (i.e., the total sound energy divided by the duration). Thus, the L_{eq} is the constant sound level that would contain the same acoustic energy as the varying sound level, during the same time period.

In determining the daily measure of community noise, it is important to account for the difference in human response to daytime and nighttime noise. Nighttime exterior background and household

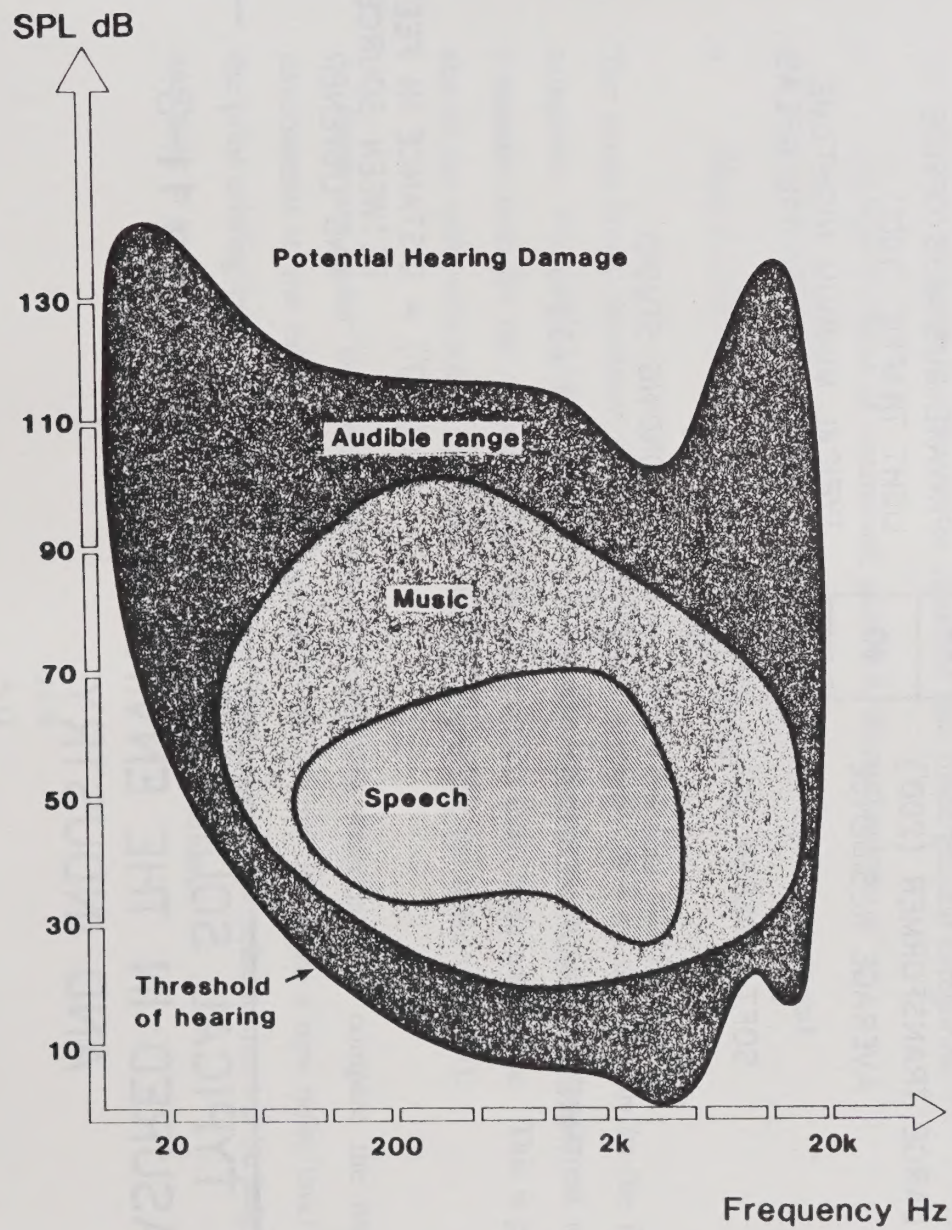


Figure 11-1 RANGE OF SOUND SPECTRA

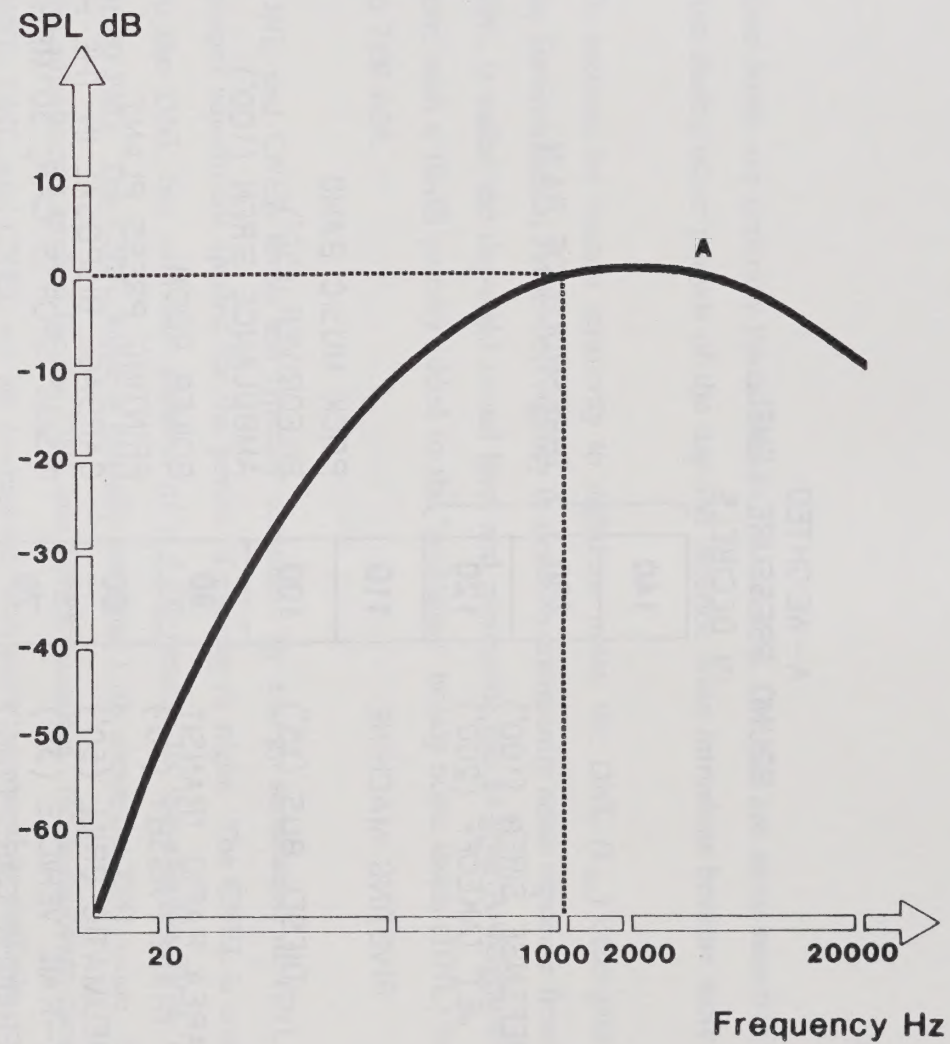


Figure 11-2 A-WEIGHTING NETWORK

A-WEIGHTED
SOUND PRESSURE LEVEL,
IN DECIBELS

	140	} THRESHOLD OF PAIN
	130	
CIVIL DEFENSE SIREN (100')	120	
JET TAKEOFF (200')	110	
RIVETING MACHINE	100	ROCK MUSIC BAND PILEDRIVER (50')
DIESEL BUS (15')	90	AMBULANCE SIREN (100')
BAY AREA RAPID TRANSIT TRAIN PASSBY (10')	80	BOILER ROOM PRINTING PRESS PLANT
PNEUMATIC DRILL (50')	70	GARBAGE DISPOSAL IN THE HOME INSIDE SPORTS CAR, 50 MPH
SF MUNI LIGHT-RAIL VEHICLE (35')	60	
FREIGHT CARS (100')	50	DATA PROCESSING CENTER DEPARTMENT STORE
VACUUM CLEANER (10')	40	PRIVATE BUSINESS OFFICE LIGHT TRAFFIC (100')
SPEECH (1')	30	TYPICAL MINIMUM NIGHTTIME LEVELS--RESIDENTIAL AREAS
AUTO TRAFFIC NEAR FREEWAY	20	
LARGE TRANSFORMER (200')	10	RECORDING STUDIO
AVERAGE RESIDENCE	0	MOSQUITO (3')
SOFT WHISPER (5')		
RUSTLING LEAVES		
THRESHOLD OF HEARING		

(100') = DISTANCE IN FEET
BETWEEN SOURCE
AND LISTENER

TYPICAL SOUND LEVELS
MEASURED IN THE ENVIRONMENT
AND INDUSTRY

Figure 11-3

noise levels are generally lower than in the daytime. People are more sensitive to noise at night than during other periods of the day and exterior noise intrusions become more noticeable.

To account for human sensitivity to nighttime noise, the DNL (L_{dn}) descriptor was adopted by the Environmental Protection Agency to describe community noise exposure from all sources. The DNL is called the day-night sound level and represents the 24-hour A-weighted equivalent sound level with a 10-dB penalty added to the "nighttime" hourly noise levels (HNL) between 10:00 PM to 7:00 AM.

DNL and CNEL levels are typically computed by energy summation of HNL values, with the proper adjustment applied for the period of evening or night. The CNEL is computed identically to the DNL but with the addition of a 5-dB penalty to the evening HNL (i.e., 7:00 PM to 10:00 PM). The CNEL value is typically less than 1 dB above the DNL value. Figure 11-4 shows the adjustments applied for the DNL and CNEL measures. Noise exposure measures such as L_{eq} , HNL, DNL, and CNEL are all A-weighted, with units expressed in decibels.

SUBJECTIVE RESPONSE TO NOISE

The effects of noise on people can be classified into three general categories:

- o Subjective effects of annoyance, nuisance, dissatisfaction;
- o Interference with activities such as speech, sleep, and learning; and
- o Physiological effects such as anxiety or hearing loss.

The sound levels associated with community noise usually produce effects only in the first two categories. No universal measure for the subjective effects of noise has been developed, nor does a measure exist for the corresponding human reactions from noise annoyance. This is primarily due to the wide variation in individual attitudes regarding the noise source(s).

An important factor in assessing a person's subjective reaction is to compare the new noise environment to the existing noise environment. In general, the more a new noise level exceeds the prior existing level, the less acceptable it is. Therefore, a new noise source will be judged more annoying in a quiet area than it would be in a noisier location.

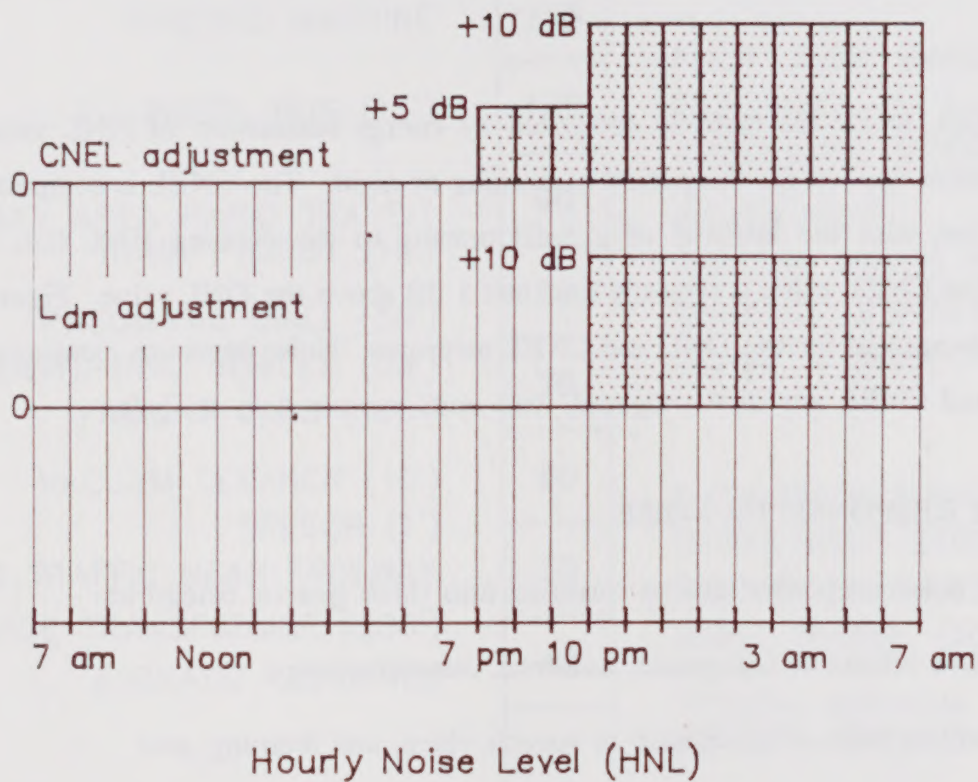


Figure 11-4 HOURLY NOISE LEVELS AND ANNUAL METRICS

Knowledge of the following relationships is helpful in understanding how changes in noise and noise exposure are perceived.:

- o Except under special conditions, a change in sound level of 1 dB cannot be perceived;
- o Outside of the laboratory, a 3 dB change is considered a just-noticeable difference;
- o A change in level of at least 5 dB is required before any noticeable change in community response would be expected; and
- o A 10 dB change is subjectively heard as an approximate doubling in loudness and almost always causes an adverse community response.

COMBINATION OF SOUND LEVELS

Because we perceive both the level and frequency of sound in a non-linear way, the logarithmic decibel scale is used to describe sound levels. The frequency scale is also measured in logarithmic increments. Decibels, measuring sound energy, combine logarithmically. A doubling of sound energy (for instance, from two identical automobiles passing simultaneously) creates a 3-dB increase (i.e., the resultant sound level is the sound level from a single passing automobile plus 3 dB). The rules for decibel addition used in community noise prediction are:

- o If two sound levels are within 1 dB of each other, their sum is the highest value plus 3 dB;
- o If two sound levels are within 2 to 4 dB of each other, their sum is the highest value plus 2 dB;
- o If two sound levels are within 5 to 9 dB of each other, their sum is the highest value plus 1 dB; and
- o If two sound levels are greater than 9 dB apart, the contribution of the lower value is negligible and the sum is simply the higher value.

11.6 NOISE IN CONTRA COSTA COUNTY

OVERVIEW

In Contra Costa County, traffic along freeways (e.g., Interstate 80, Interstate 680, State Route 24, and State Route 4), and major arterials (e.g., Willow Pass Road and Ygnacio Valley Road) are the primary sources of vehicular traffic noise.

Rail operations also contribute to the noise environment in the County. The Atchison Topeka and Santa Fe (ATSF) and Southern Pacific (SP) railroad corridors in the County are primarily freight lines. These lines generate high noise levels during passbys and their trains are required to sound their whistles when crossing roadways at-grade. The Bay Area Rapid Transit (BART) system is an electrically driven passenger line. BART passbys are typically less noisy than the freight trains. BART trains do not have at-grade crossings.

Existing air traffic activity also contributes to the noise in Contra Costa County. Buchanan Field, near Concord, is the primary source of aircraft noise. Other sources of aircraft noise are local emergency airports and military helicopter activity.

The remaining noise sources are industrial plants such as oil refineries and materials processing plants. The Camp Parks Reserve Forces Training Area (RFTA) near San Ramon also is a noise source. Typical operations at Parks RFTA include small caliber weapons training, helicopter overflights, and vehicular activity.

ONGOING PROBLEMS

There are many areas within the County that have existing noise problems. Buchanan Field is a constant source of noise complaints. According to the County, it generates approximately 800 complaints a year. Interstate 80, 680 and Route 4 also generate complaints. However, these complaints typically are handled by the California Department of Transportation. Rail switching yards in Martinez and Richmond are also noisy and have generated complaints. Industrial noise sources that have generated complaints are the Shell Oil refinery in Martinez, and both the Gaylord Paper Mill and the DuPont Plant in Oakley.¹

Noise measurements were made near several of the problem industrial noise sources to quantify the noise levels. Noise measurements were also made near the Southern Pacific rail switching yard in Martinez. Table 11-2 summarizes the results of these measurements.

Loud music, parties, sporting events at high schools, outdoor music at nightclubs, and, in the past, livestock, have also been the source of complaints to the County.

TABLE 11-2
 DAYTIME EXISTING NOISE LEVELS FROM INDUSTRIAL SOURCES
 AUGUST 1, 1990
 BETWEEN 12:00 PM AND 5:00 PM¹

Location	L_{eq} (in dB)	L_{90} (in dB)	Comment
In Oakley, at intersection of Big Break Road and Vintage Parkway; 2000 feet from eastern edge of DuPont Plant.	54	45	Noise from trucks and general plant activity; Antioch Bridge visible, but not audible; three car passbys on Big Break Road during 5-minute measurement.
In Oakley, 200 feet east and 300 feet south of steam pressure release stack at Gaylord Paper plant on Wilbur Avenue; 20 feet north of A.T. and S.F. trucks.	69	65	Noise from steam release was dominant; some 18-wheel truck activity; Wilbur Avenue barely audible.
In Oakley, on Viera Avenue, 500 feet east and 400 feet south of steam release at Gaylord plant.	68	63	Noise from steam release was dominant; in residential neighborhood; seven car passbys on Viera Avenue during 5-minute measurements; Wilbur Avenue barely audible.
In Oakley, on Viera Avenue, between Santa Fe Avenue and Brown Lane; 1000 feet south and 500 feet east of steam release at Gaylord plant.	60	55	Steam release noise still clearly audible; trees blocked line-of-sight to Gaylord plant; in residential neighborhood; four car passbys on Viera Avenue during 5-minute measurement.
In Martinez, at Southern Pacific rail yards; 60 feet from tracks.	68	54	Amtrack passby at 85 dB, vibration perceptible; train switching activity was between 68 dB (engine only passby) and 84 dB (engine backing up with six cars attached).

¹Duration of each measurement is five minutes.

FORESEEABLE FUTURE PROBLEMS

Potential foreseeable future problems will be similar to many current problems. For example, residential land uses still will remain in relatively close proximity to some industrial noise sources. Currently, residential development is being built or proposed near Camp Parks RFTA. Although adequate setbacks and noise mitigation are usually incorporated into these projects, occasional complaints can be expected. Similarly, loud parties, outdoor music, and other industrial sources will continue to generate sporadic complaints. Activities at Buchanan Field are not anticipated to decrease in the future and may even increase. This activity would be expected to generate future complaints. Gas wells located in East County may be a source of future complaints. These wells generate a high-frequency hissing sound.

In preparing this Noise Element, all the existing noise complaints and potential future ones were considered in the development of goals and policies. The purpose of these goals and policies is to protect future residents from the negative impact of noise and, if possible, minimize and reduce the number of complaints the County receives.

11.7 NOISE CONTOURS

METHODOLOGY

Existing and future traffic noise levels are based on calculations using the Federal Highway Administration Traffic Noise Prediction Model (FHWA RD-77-108), continuous 24-hour noise measurements, and short-term 15-minute measurements along freeways and major arterials in the County. The FHWA method predicts the average hourly noise level along a roadway based on the number of vehicles, the speed of the vehicles, and the percentage of medium and heavy trucks.

The 24-hour average noise level (DNL) along a roadway, was calculated from the continuous 24-hour noise measurements. Along some roadways, however, only a 15-minute noise measurement was made. To calculate the DNL, the 15-minute measurement results were compared to the noise level measured during the same time period at a 24-hour noise measurement location on a nearby or similar roadway. The difference between the measured hourly noise levels and the DNL then was calculated for the 24-hour measurement location and the same offset was applied for the 15-minute measurement location.

To determine the 24-hour noise level where no measurements were taken, the peak hour L_{eq} was calculated using the FHWA method and traffic volumes provided by the County. The DNL was determined in a manner similar to that of the short-term measured roadways. By comparing the peak-hour noise level (L_{eq}) and the DNL from 24-hour noise measurements made in the vicinity of the roadway, a peak hour L_{eq} to DNL offset was determined. This offset was applied to the calculated peak hour level to determine the DNL at the non-measured location.

NOISE CONTOUR MAPS/TABLES

Roadways/Rail Lines

Existing and future DNL noise contours have been prepared for freeways, major arterials, and railways in the County. The contours were prepared on USGS quad maps. A reduced set of the future contours are provided in this document (see Figures 11-5A through 11-5U). Table 11-3 summarizes the information contained in the future noise contours. A complete set of full size existing and future noise contours is available for public review at the Community Development Department offices.

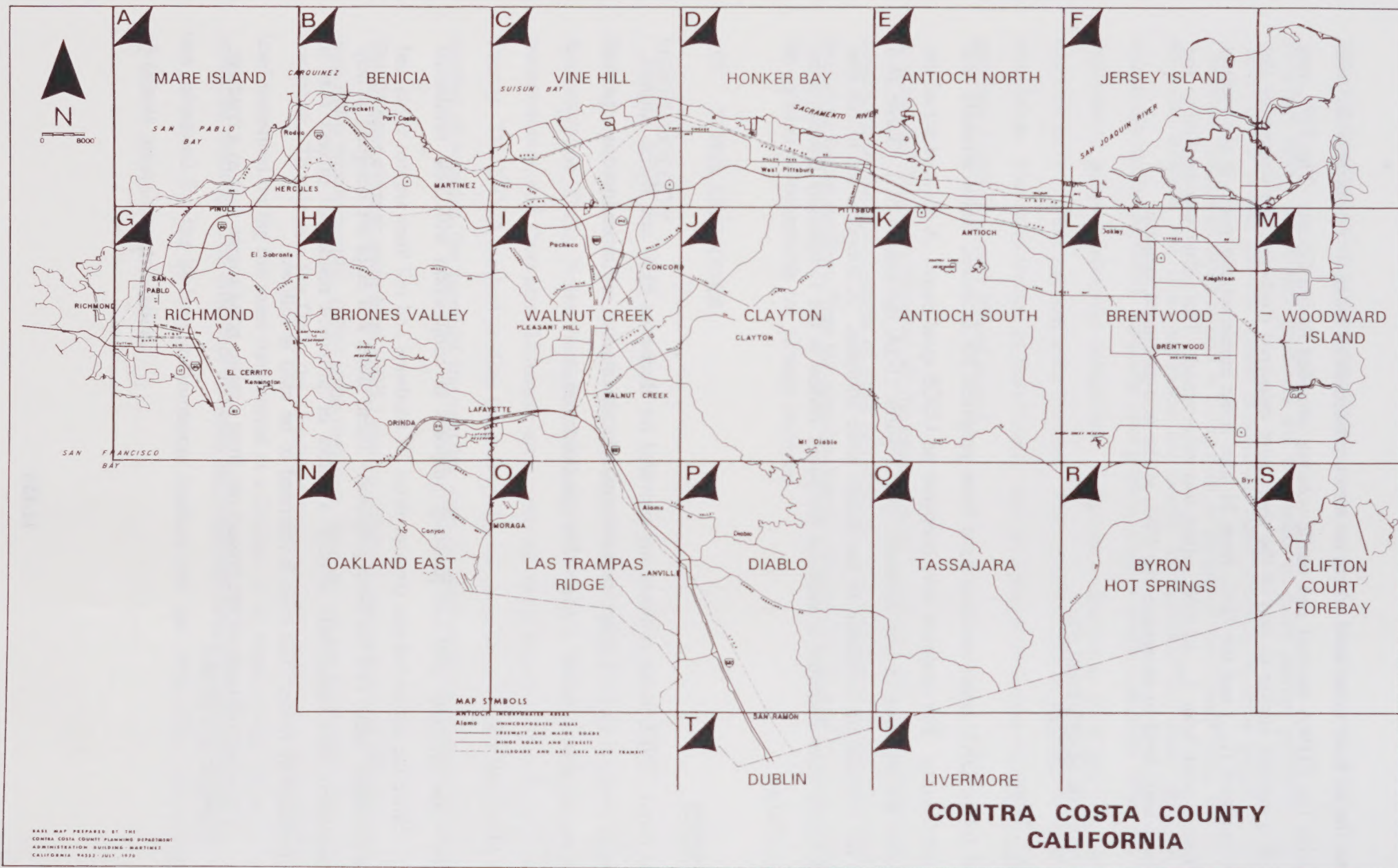
Airports/Heliports

Existing and future CNEL noise contours are provided for Buchanan Field and Byron Airport. These contours were taken from other environmental documents and are reproduced on the full and reduced set of noise contours contained in this document.

USE OF MAPS/TABLES

Noise contours are typically used for planning purposes in conjunction with new residential development. Since the actual full-size contour maps for roadways and rail lines are not contained in the Noise Element, Table 11-3 has been prepared. These tables and maps are designed to help planners, developers, and consultants identify a parcel or proposed residential project that is potentially impacted by noise. The table is intended to be used as follows:

- Step 1. Determine distance of the project site from a major noise source such as a roadway, airport, or rail line.



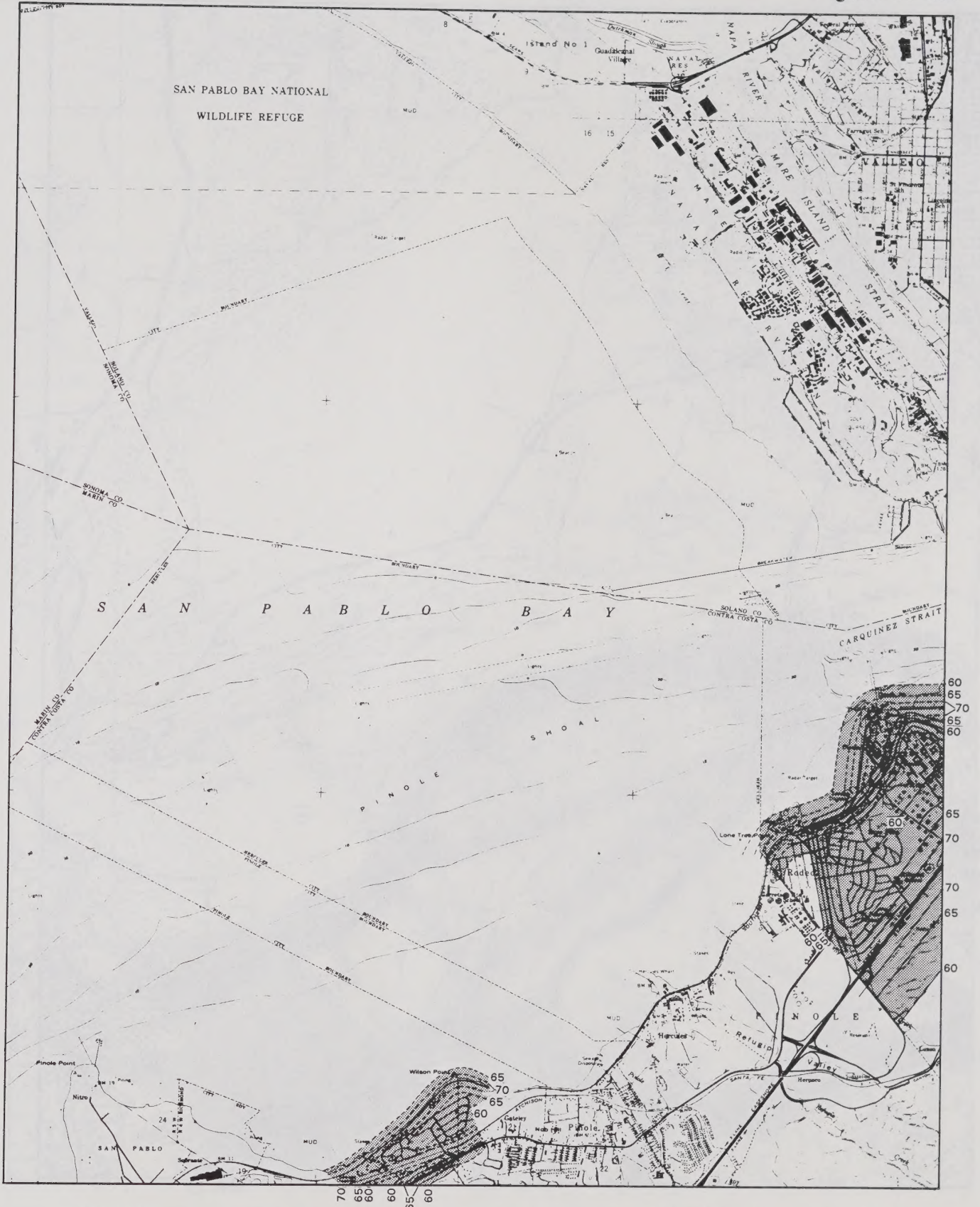
KEY TO 2005 NOISE CONTOUR MAPS

The above key provides a locational guide to the 2005 noise contour maps which appear on the following pages. The maps have been reduced from their original 1" = 2000' scale, and are presented here for illustrative purposes. The full set of 1" = 2000' administrative noise contour maps is available in the Contra Costa County Community Development Department.

Figure 11-5

Noise Contours

Figure 11-5A



LEGEND



2005 DNL and CNEL NOISE LEVELS (dB)

— Roadways are DNL

--- Trains are DNL



NORTH

1 1/2 0 1 MILE

1000 0 1000 3000 5000 7000 FEET

Noise Contours

Figure 11-5B



LEGEND



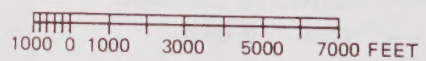
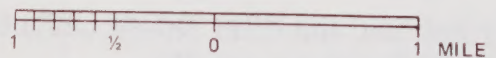
2005 DNL and CNEL NOISE LEVELS (dB)

—— Roadways are DNL

----- Trains are DNL



NORTH



Noise Contours

Figure 11-5C



LEGEND



2005 DNL and CNEL NOISE LEVELS (dB)

— Roadways are DNL

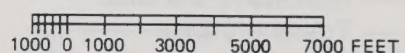
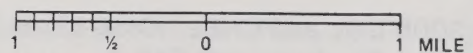
--- Trains are DNL

--- Airports are CNEL



NORTH

Vine Hill



Noise Contours

Figure 11-5D



LEGEND



2005 DNL and CNEL NOISE LEVELS (dB)

—— Roadways are DNL

---- Trains are DNL



NORTH

Honker Bay

1 1/2 0 1 MILE

1000 0 1000 3000 5000 7000 FEET

11-21

Noise Contours

Figure 11-5F



LEGEND



2005 DNL and CNEL NOISE LEVELS (dB)

— Roadways are DNL

- - - Trains are DNL



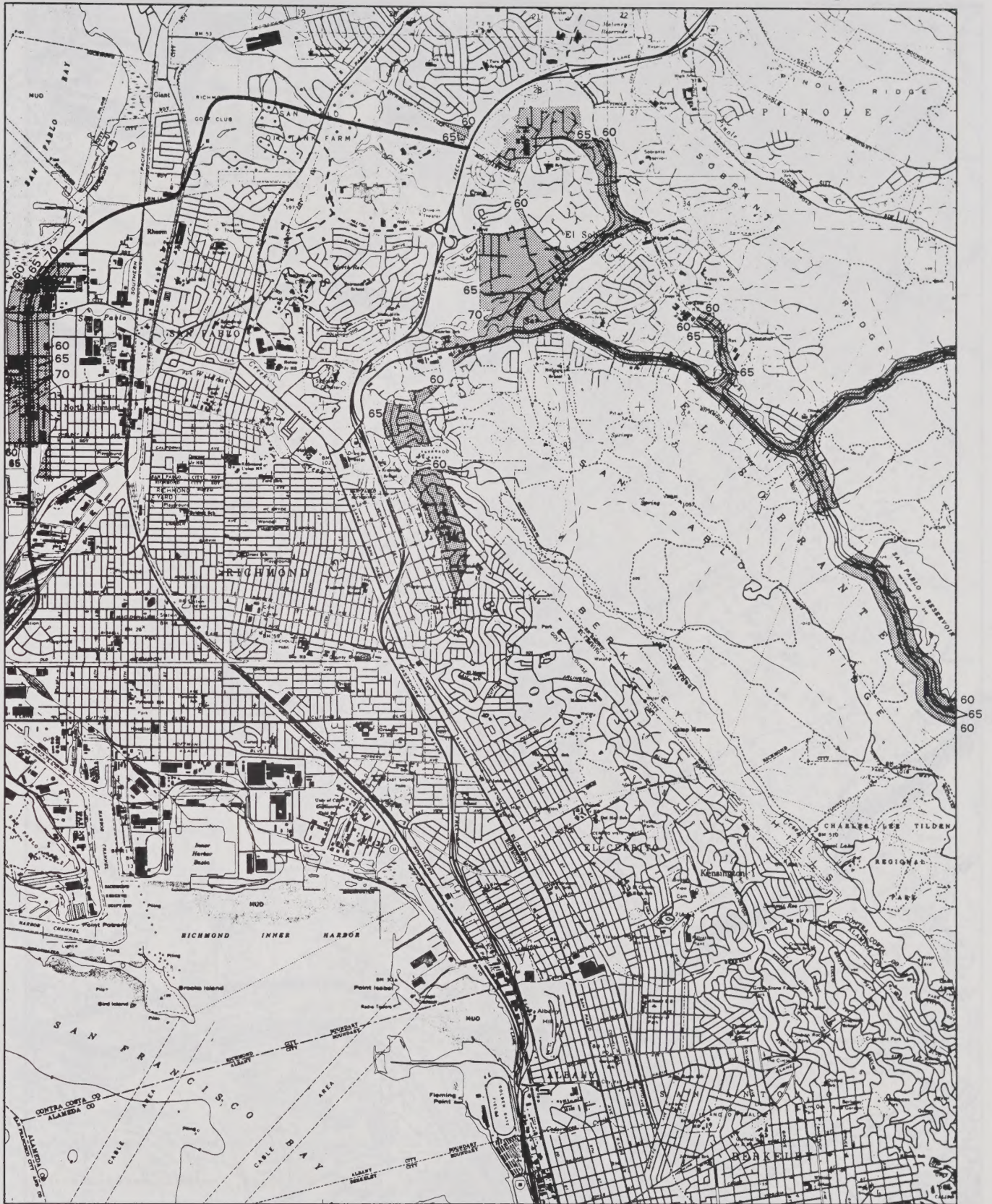
NORTH

1 1/2 0 1 MILE

1000 0 1000 3000 5000 7000 FEET

Noise Contours

Figure 11-5G

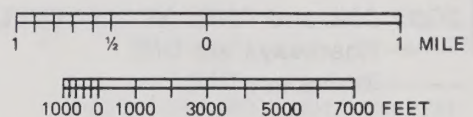


LEGEND

-  2005 DNL and CNEL NOISE LEVELS (dB)
- Roadways are DNL
- Trains are DNL



Richmond



Noise Contours

Figure 11-5H



LEGEND

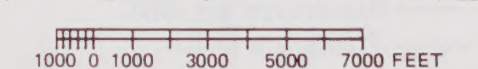


2005 DNL and CNEL NOISE LEVELS (dB)

— Roadways are DNL

--- Trains are DNL

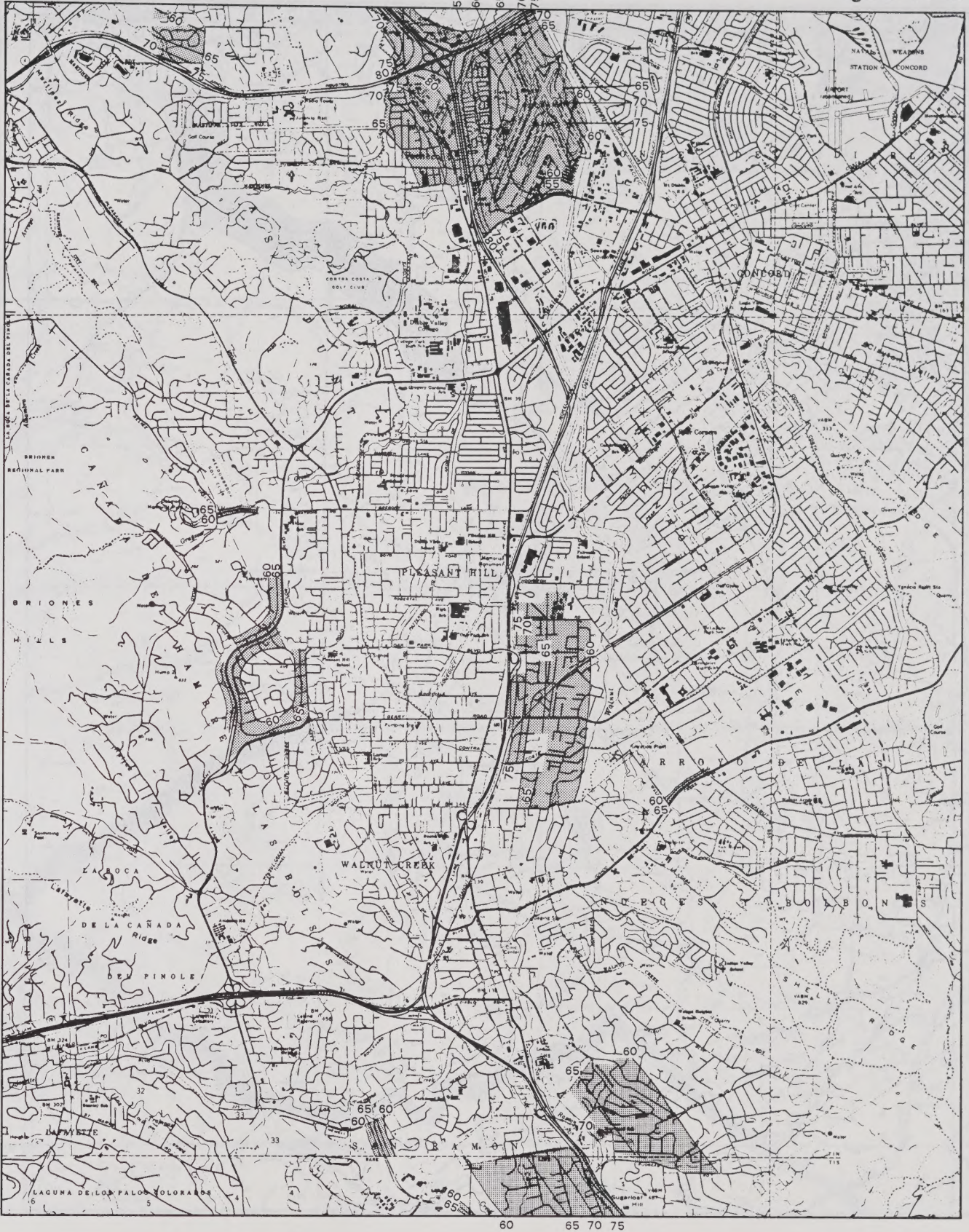
Briones Valley



NORTH

Noise Contours

Figure 11-51



LEGEND



2005 DNL and CNEL NOISE LEVELS (dB)

—— Roadways are DNL

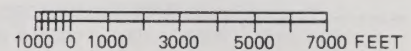
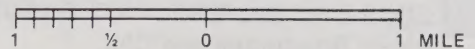
----- Trains are DNL

----- Airports are CNEL



NORTH

Walnut Creek



Noise Contours

Figure 11-5J



LEGEND



2005 DNL and CNEL NOISE LEVELS (dB)

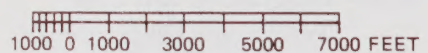
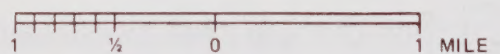
—— Roadways are DNL

---- Trains are DNL



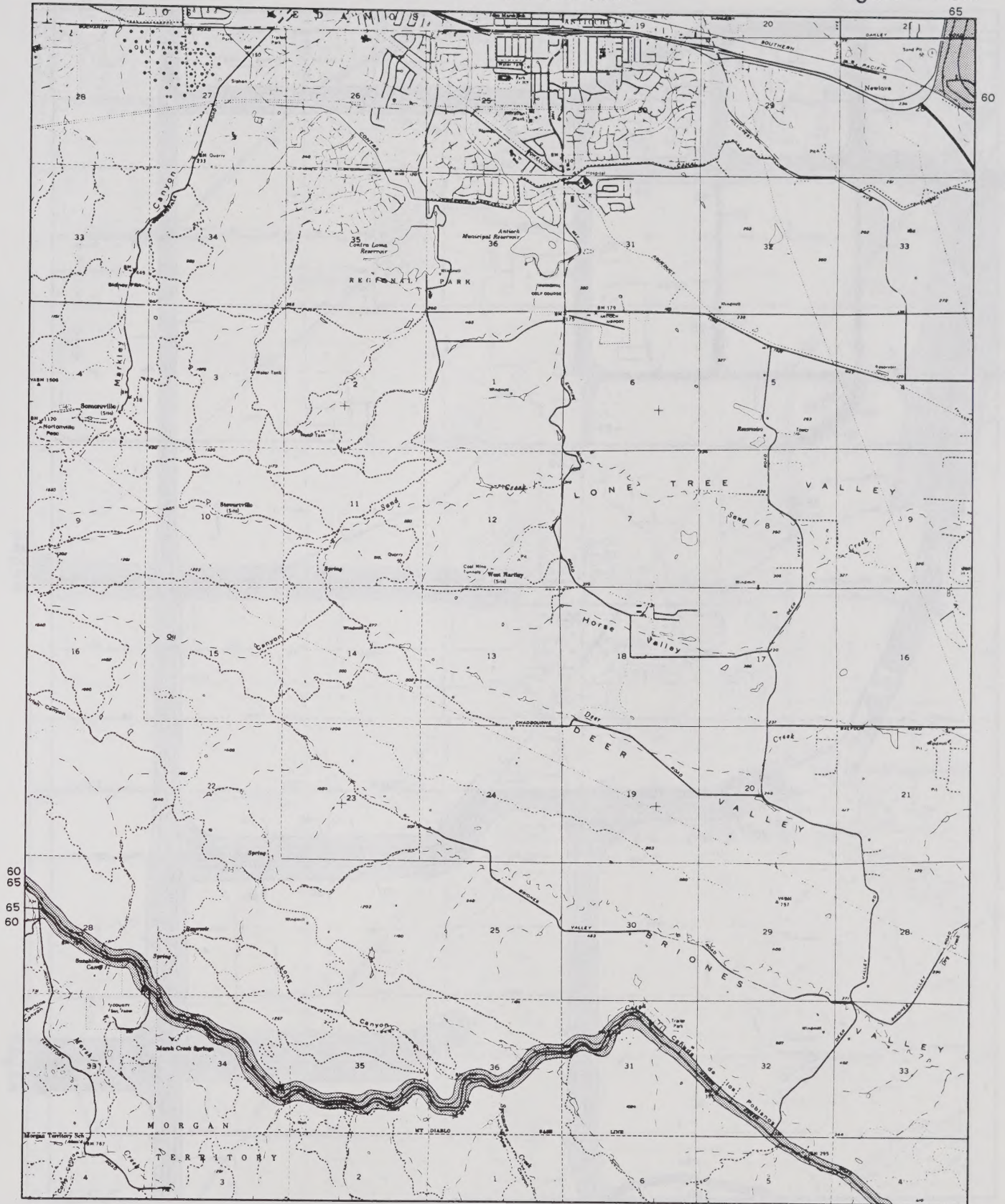
NORTH

Clayton



Noise Contours

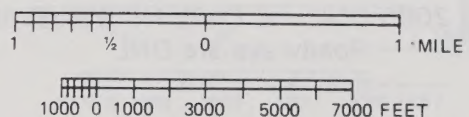
Figure 11-5K



LEGEND

-  2005 DNL and CNEL NOISE LEVELS (dB)
-  Roadways are DNL
-  Trains are DNL

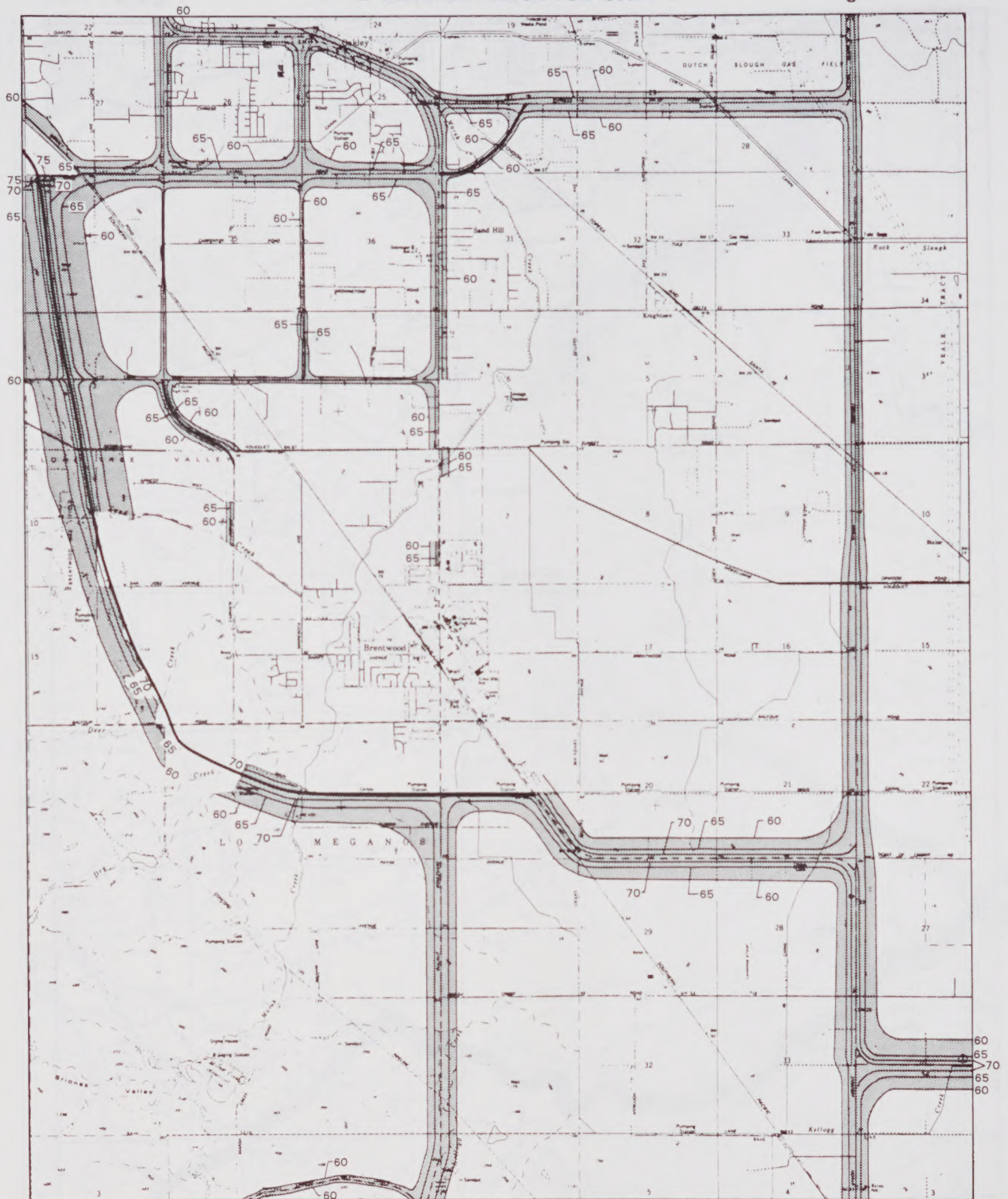
Antioch South



NORTH

Noise Contours

Figure 11-5L



LEGEND



2005 DNL and CNEL NOISE LEVELS (dB)

—— Roadways are DNL

---- Trains are DNL



NORTH

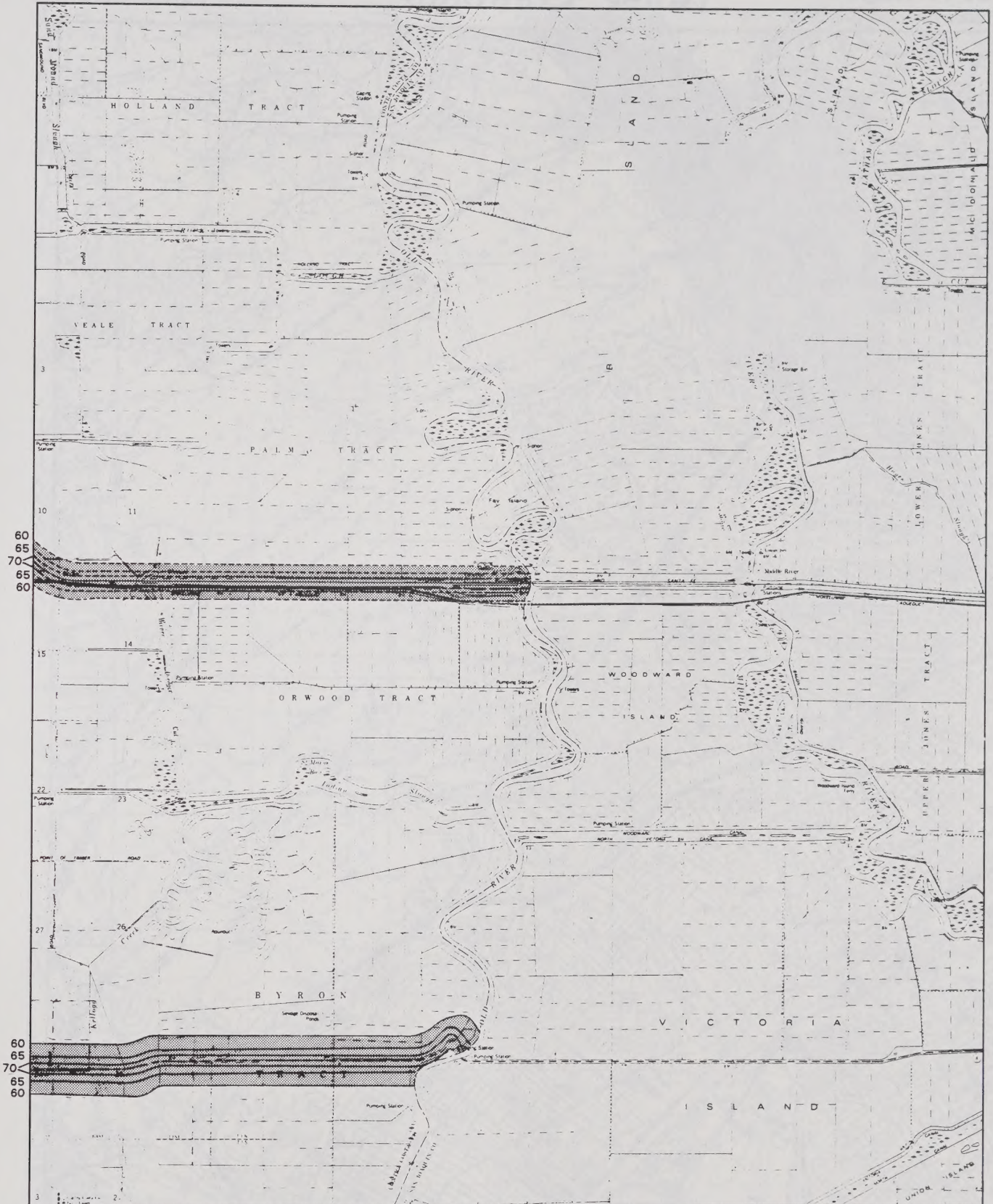
Brentwood

1 1/2 0 1 MILE

1000 0 1000 3000 5000 7000 FEET

Noise Contours

Figure 11-5M



LEGEND



2005 DNL and CNEL NOISE LEVELS (dB)

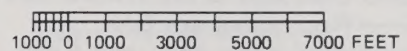
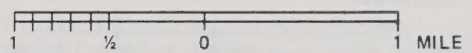
—— Roadways are DNL

----- Trains are DNL



NORTH

Woodward Island



Noise Contours

Figure 11-5N



LEGEND



2005 DNL and CNEL NOISE LEVELS (dB)

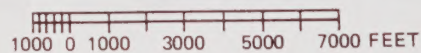
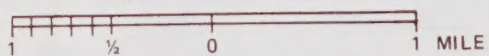
— Roadways are DNL

--- Trains are DNL



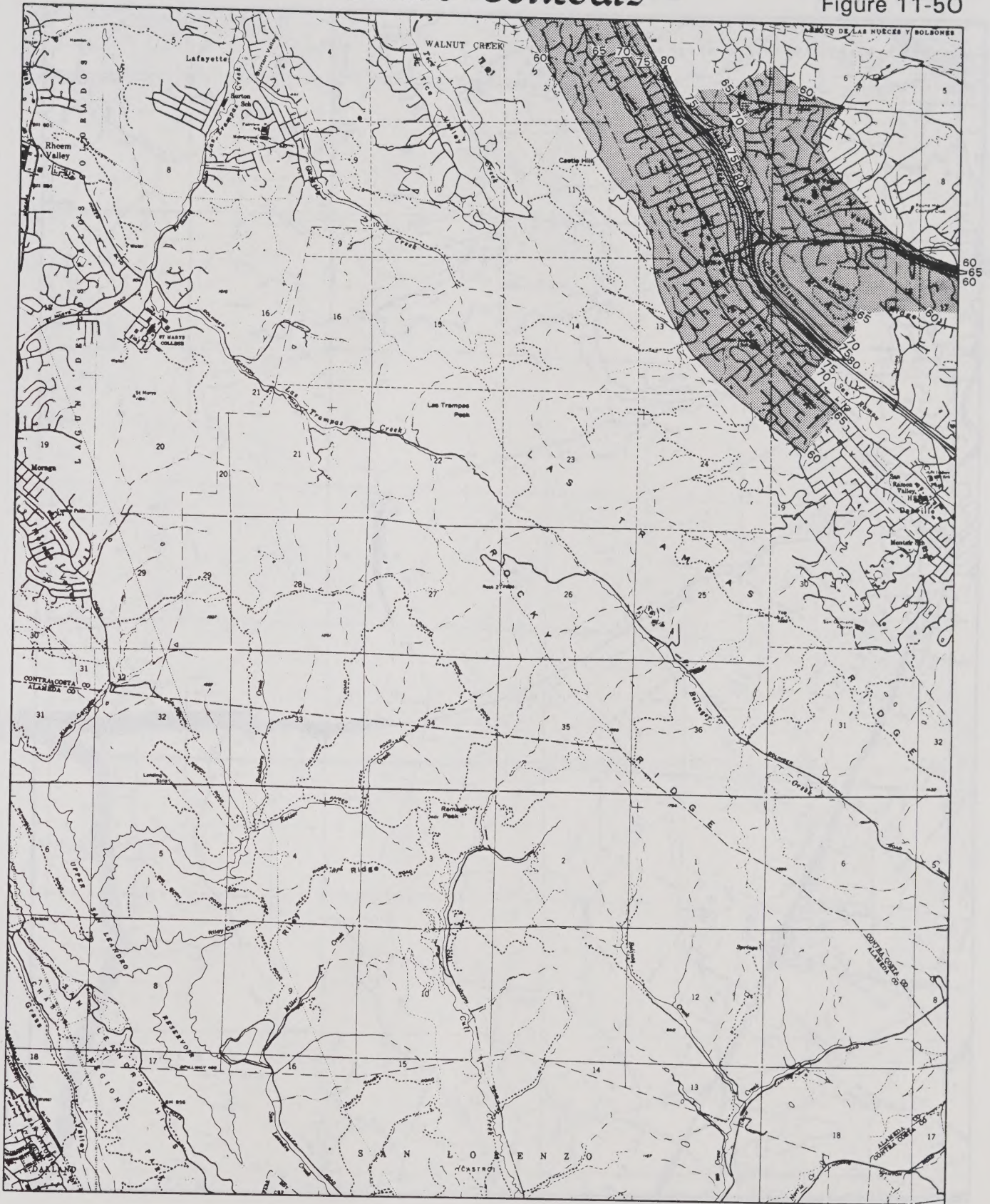
NORTH

Oakland East



Noise Contours

Figure 11-50



LEGEND



2005 DNL and CNEL NOISE LEVELS (dB)

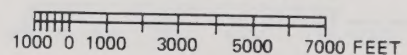
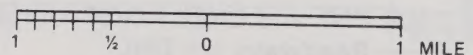
— Roadways are DNL

--- Trains are DNL



NORTH

Las Trampas Ridge



Noise Contours

Figure 11-5P



LEGEND



2005 DNL and CNEL NOISE LEVELS (dB)

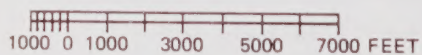
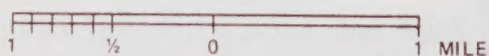
—— Roadways are DNL

----- Trains are DNL



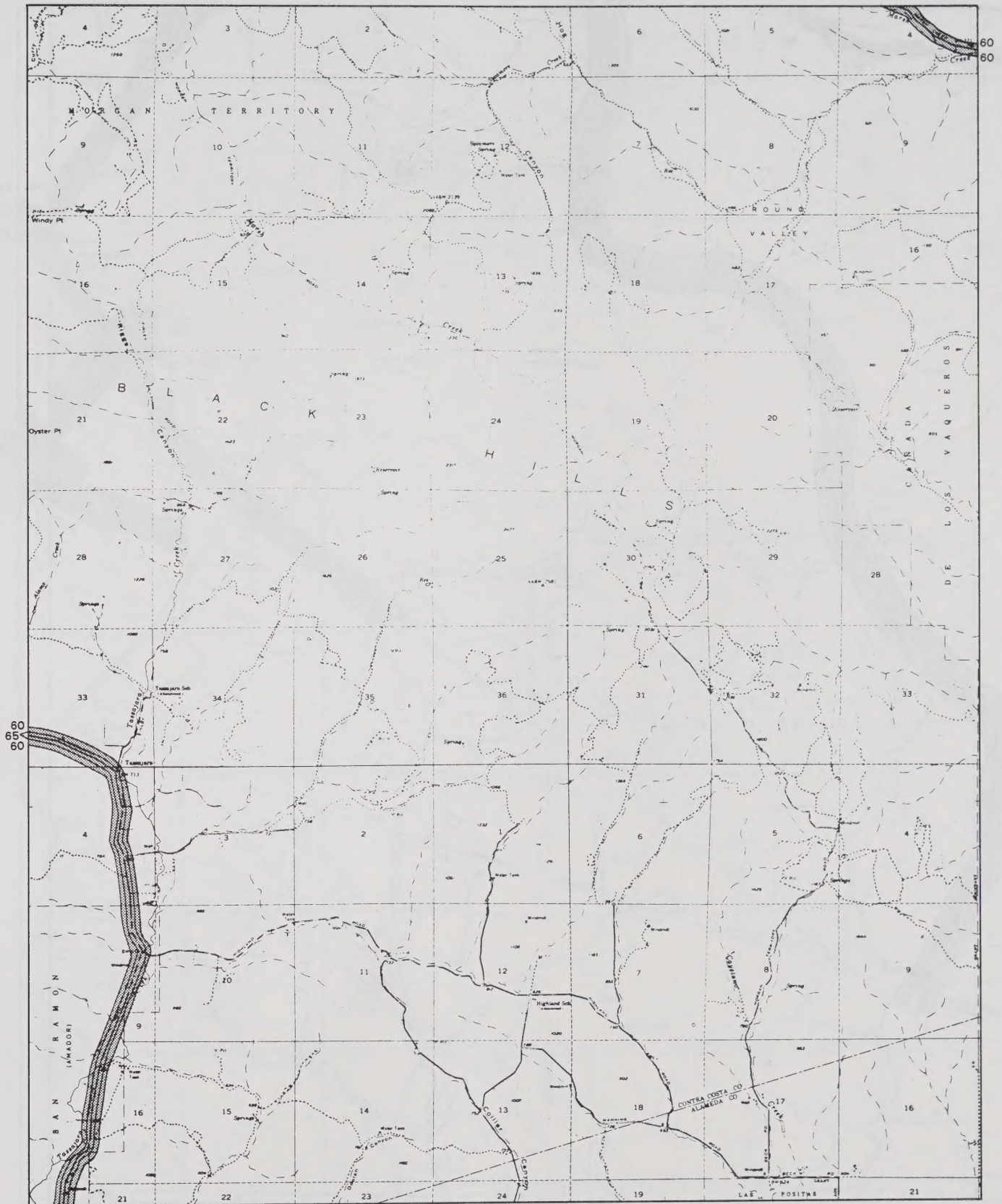
NORTH

Diablo



Noise Contours

Figure 11-5Q



LEGEND



2005 DNL and CNEL NOISE LEVELS (dB)

— Roadways are DNL

--- Trains are DNL



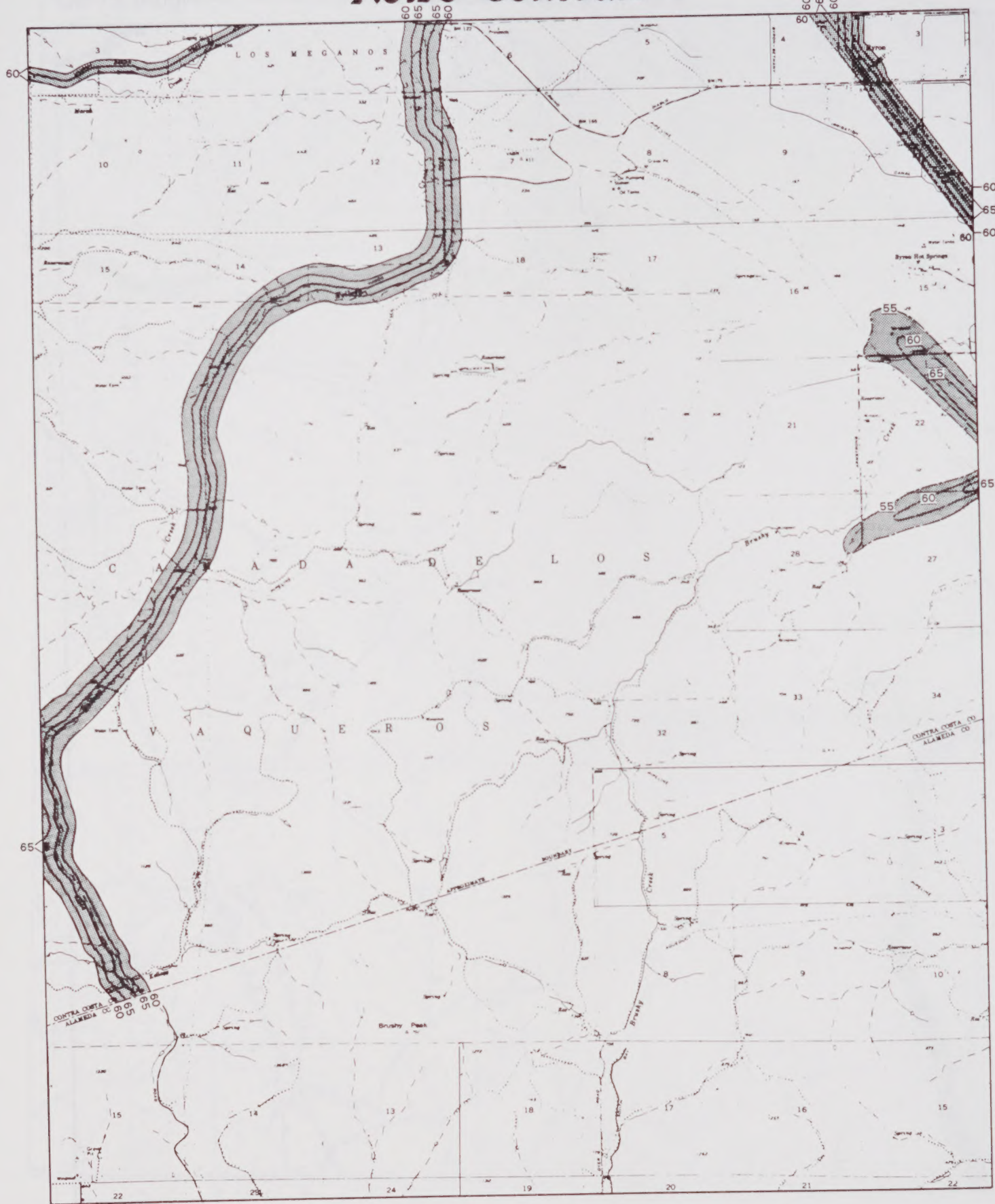
NORTH

1 1/2 0 1 MILE

1000 0 1000 3000 5000 7000 FEET

Noise Contours

Figure 11-5R

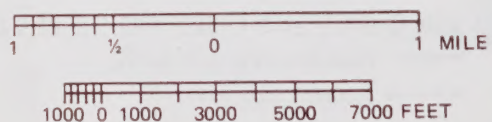


LEGEND

-  2005 DNL and CNEL NOISE LEVELS (dB)
-  Roadways are DNL
-  Trains are DNL
-  Airports are CNEL



Byron Hot Springs



Noise Contours

Figure 11-5S



LEGEND



2005 DNL and CNEL NOISE LEVELS (dB)

— Roadways are DNL

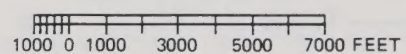
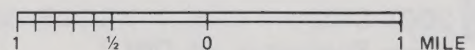
--- Trains are DNL

--- Airports are CNEL



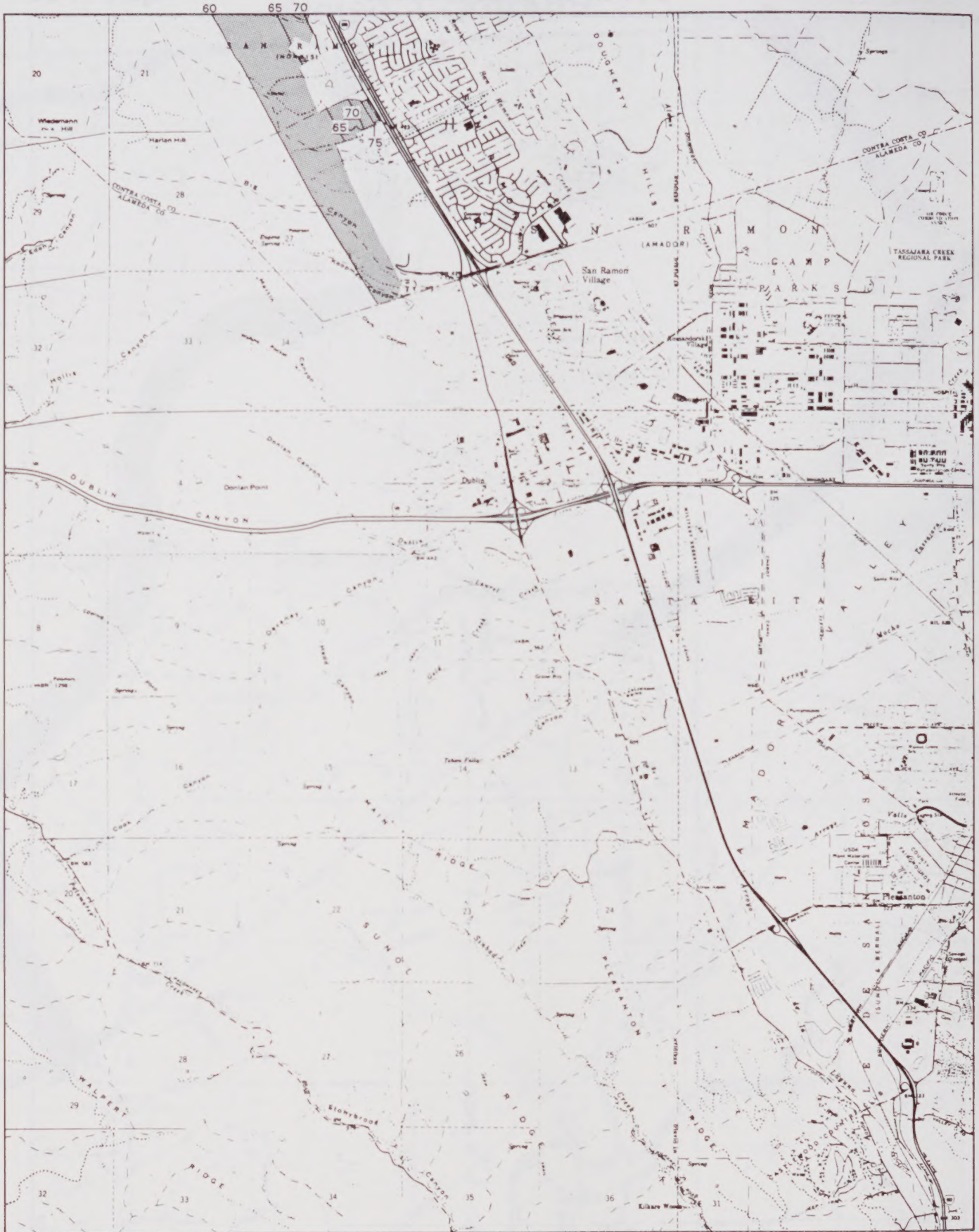
NORTH

Clifton Court Forebay



Noise Contours

Figure 11-5T



LEGEND



2005 DNL and CNEL NOISE LEVELS (dB)

———— Roadways are DNL

----- Trains are DNL



NORTH

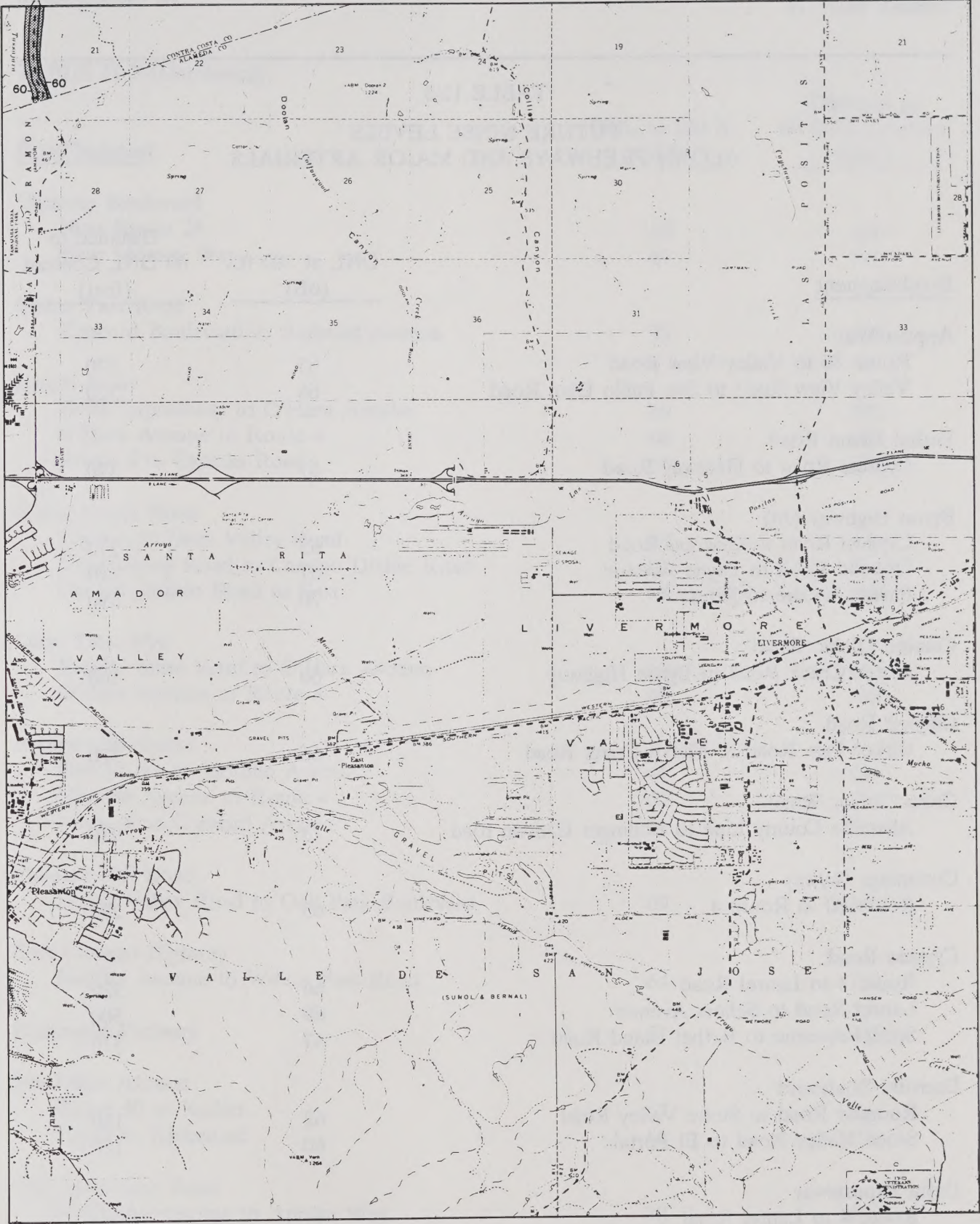
Dublin

1 1/2 0 1 MILE

1000 0 1000 3000 5000 7000 FEET

Noise Contours

Figure 11-5U



LEGEND



2005 DNL and CNEL NOISE LEVELS (dB)

— Roadways are DNL

--- Trains are DNL



NORTH

Livermore

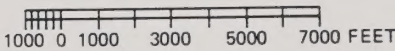
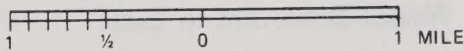


TABLE 11-3
FUTURE NOISE LEVELS
ALONG FREEWAYS AND MAJOR ARTERIALS

<u>Road/Segment</u>	<u>DNL at 100 ft. (dB)</u>	<u>Distance to 60 DNL Contour (feet)</u>
Appian Way		
Route 80 to Valley View Road	65	270
Valley View Road to San Pablo Dam Road	66	320
Bethel Island Road		
Cypress Road to Gateway Road	67	370
Byron Highway (J4)		
Cypress Road to Orwood Road	65	270
Orwood Road to Payne Avenue	67	370
Payne Avenue to Route 4	70	590
Camino Diablo Road		
Marsh Creek Road to Byron Highway	60	100
Clayton Road		
Kirker Pass Road to Marsh Creek Road	66	320
Crow Canyon Road		
Alameda County Line to Bollinger Canyon road	73	930
Cummings Skyway		
Route 80 to Route 4	65	270
Cypress Road		
Route 4 to Laurel Road	66	320
Laurel Road to Sellers Avenue	69	500
Sellers Avenue to Bethel Island Road	67	370
Danville Boulevard		
Rudgear Road to Stone Valley Road	62	160
Stone Valley Road to El Portal	60	100
Delta Expressway		
Route 4 to Laurel Road	77	1,700
Laurel Road to San Creek Boulevard	76	930
Sand Creek Boulevard to Walnut Boulevard	74	1,100
Walnut Boulevard to East	71	680

TABLE 11-3 (Continued)

<u>Road/Segment</u>	<u>DNL at 100 ft. (dB)</u>	<u>Distance to 60 DNL Contour (feet)</u>
Gateway Boulevard		
Near Route 24	68	430
Near Moraga Way	67	370
Kirker Pass Road		
Concord Boulevard to Railroad Avenue	73	930
Laurel Road		
Delta Expressway to O'Hara Avenue	69	500
O'Hara Avenue to Route 4	68	430
Route 4 to Cypress Road	64	230
Marsh Creek Road		
Clayton to Deer Valley Road	65	270
Deer Valley Road to Camino Diablo Road	64	230
Camino Diablo Road to East	63	200
Lone Tree Way		
Empire Mine Road to O'Hara Avenue	68	430
O'Hara Avenue to Route 4	60	100
Pacheco Boulevard		
Pine Street to Morello Avenue	61	130
Morello Avenue to Route 4	65	270
Route 4 to Concord Avenue	66	320
Pleasant Hill Road		
Reliez Valley Road to Oak Park Boulevard	69	500
Port Chicago Highway		
Pacifica Avenue to Willow Pass Road	64	230
Richmond Parkway	72	800
San Pablo Avenue		
Route 80 to Rodeo	67	370
Pinole to Richmond	63	200
San Pablo Dam Road		
San Pablo Avenue to Appian Way	70	590
Appian Way to Valley View Road	63	200
Valley View road to Castro Ranch Road	64	230
Castro Ranch Road to Bear Creek Road	67	370

TABLE 11-3 (Continued)

<u>Road/Segment</u>	<u>DNL at 100 ft. (dB)</u>	<u>Distance to 60 DNL Contour (feet)</u>
Stone Valley Road		
Route 680 to Miranda Avenue	62	160
Miranda Avenue to Green Valley Road	61	130
Camino Tassajara Road		
Black Hawk Road to Finley Road	67	370
Finley Road to Alameda County Line	66	320
Taylor Boulevard		
Pleasant Hill Road South to Pleasant Hill Road North	68	430
Vasco Road		
Camino Diablo Road to Alameda County Line	71	680
Willow Pass Road		
Route 4 to Pittsburg	65	270
Ygnacio Valley Boulevard		
Walnut Creek to Clayton Road	70	590
Route 4		
Route 80 to Cummings Skyway	72	800
Cummings Skyway to McEwen Road	73	930
McEwen Road to Alhambra Avenue	74	1,100
Alhambra Avenue to Morello Avenue	75	1,300
Morello Avenue to Solano Way	77	1,700
Solano Way to Route 242	78	2,000
Route 242 to Port Chicago Highway	77	1,700
Port Chicago Highway to Railroad Avenue	78	2,000
Lone Tree Way North to Route 160	72	800
Route 160 to Oakley Road	67	370
Oakley Road to Cypress Road	66	320
Cypress Road to Lone Tree Way East	65	270
Lone Tree Way East to Brentwood Road	67	370
Brentwood Road to Sellers Avenue	60	100
Sellers Avenue to Byron Highway	72	800
Byron Highway to San Joaquin County Line	73	930
Route 24		
Alameda County Line to Orinda	78	2,000
Route 80		
Solano County to Willow Avenue	79	2,300

TABLE 11-3 (Continued)

<u>Road/Segment</u>	<u>DNL at 100 ft. (dB)</u>	<u>Distance to 60 DNL Contour (feet)</u>
Route 160		
Route 4 to Solano County Line	70	425
Route 680		
Solano County Line to Pacheco Boulevard	81	3,200
Pacheco Boulevard to Highway 4	82	3,700
Highway 4 to Concord Avenue	81	3,200
Oak Park Boulevard to Route 24	81	3,200
Route 24 to Alcosta Boulevard	82	3,700
Atcheson, Topeka and Santa Fe	73	650
Southern Pacific		
Tracy-Martinez	70	425
Martinez-Pinole	77	1,050
Pinole-Richmond	76	930
BART		
Aerial	68	650
At-Grade	63	200

- Step 2. If the noise source is a roadway or rail line: from Table 11-3, determine the distance from the rail line or roadway centerline to the future 60 DNL contour.
- If the noise source is an airport, determine if the project is within the 60 CNEL contour.
- Step 3. If the project is within the future 60 DNL or CNEL contour, an acoustical study should be initiated.

Noise contours do not always account for the acoustical shielding provided by site geometry or terrain. Therefore, these contours may overestimate the noise exposure of a particular site. However, noise contours should only be used as a screening tool. Site-specific noise levels and other acoustical issues should be addressed in the acoustical study for the project.

11.8 GOALS

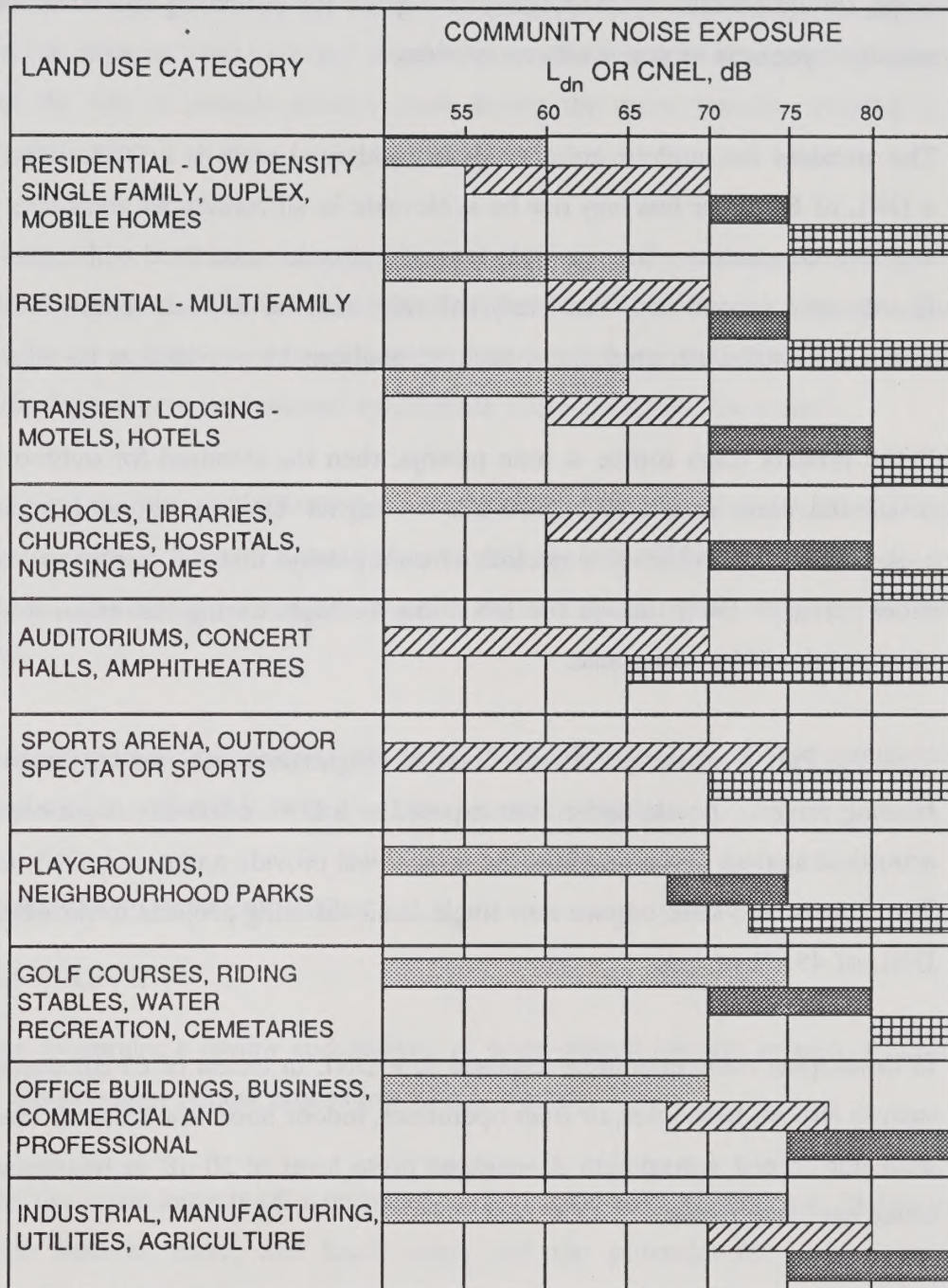
- 11-A To improve the overall environment in the County by reducing annoying and physically harmful levels of noise for existing and future residents and for all land uses.
- 11-B To maintain appropriate noise conditions in all areas of the County.
- 11-C To ensure that new developments will be constructed so as to limit the effects of exterior noise on the residents.
- 11-D To recognize the economic impacts of noise control and encourage an equitable distribution of these costs.
- 11-E To recognize citizen concerns regarding excessive noise levels, and to utilize measures through which the concerns can be identified and mitigated.

11.9 POLICIES

- 11-1 New projects shall be required to meet acceptable exterior noise level standards as established in the Noise and Land Use Compatibility Guidelines contained in Figure 11-6. These guidelines, along with the future noise levels shown in the future noise contours

Figure 11-6

LAND USE COMPATIBILITY FOR COMMUNITY NOISE ENVIRONMENTS

**NORMALLY ACCEPTABLE**

Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

**CONDITIONALLY ACCEPTABLE**

New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design.

**NORMALLY UNACCEPTABLE**

New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

**CLEARLY UNACCEPTABLE**

New construction or development clearly should not be undertaken.

For lands within 3 miles of Buchanan Field and the East Contra Costa County Airports noise compatibility shall be adjusted to those of the ALUC which are roughly 5 CNEL lower than shown on this table.

maps, should be used by the County as a guide for evaluating the compatibility of "noise-sensitive" projects in potentially noisy areas.

- 11-2 The standard for outdoor noise levels in residential areas is a DNL of 60 dB. However, a DNL of 60 dB or less may not be achievable in all residential areas due to economic or aesthetic constraints. One example is small balconies associated with multi-family housing. In this case, second and third story balconies may be difficult to control to the goal. A common outdoor use area that meets the goal can be provided as an alternative.
- 11-3 If the primary noise source is train passbys, then the standard for outdoor noise levels in residential areas is a DNL of 70 dB. A higher DNL is allowable since the DNL is controlled by a relatively few number of train passbys that are disruptive outdoors only for short periods. Even though the DNL may be high, during the majority of the time the noise level will be acceptable.
- 11-4 Title 24, Part 2, of the California Code of Regulations requires that new multiple-family housing projects, hotels, and motels exposed to a DNL of 60 dB or greater have a detailed acoustical analysis describing how the project will provide an interior DNL of 45 dB or less. The County also shall require new single-family housing projects to provide for an interior DNL of 45 dB or less.
- 11-5 In developing residential areas exposed to a DNL in excess of 65 dB due to single events such as airport, helicopter, or train operations, indoor noise levels due to these single events shall not exceed a maximum A-weighted noise level of 50 dB in bedrooms and 55 dB in other habitable rooms.
- 11-6 If an area is currently below the maximum "normally acceptable" noise level, an increase in noise up to the maximum should not be allowed necessarily.
- 11-7 Public projects shall be designed and constructed to minimize long-term noise impacts on existing residents.

- 11-8 Construction activities shall be concentrated during the hours of the day that are not noise-sensitive for adjacent land uses and should be commissioned to occur during normal work hours of the day to provide relative quiet during the more sensitive evening and early morning periods.
- 11-9 Sensitive land use shall be encouraged to be located away from noise areas, or the impacts of noise on these uses shall be mitigated. If residential areas are planned adjacent to industrial noise sources, then a noise study shall be performed to determine the extent of any noise impacts and recommend appropriate noise mitigation measures.
- 11-10 Development located within 6,000 feet of the Camp Parks Reserve Forces Training Area shall be required to prepare a detailed acoustical analysis. The analysis shall determine if the project will be affected severely by noise and, if so, what noise mitigation measures are available.
- 11-11 Noise impacts upon the natural environment, including impacts on wildlife, shall be evaluated and considered in review of development projects.

11.10 IMPLEMENTATION MEASURES

DEVELOPMENT REVIEW

- 11-a Continue to require a review and analysis of noise-related impacts as part of the existing project development review procedures of the County.
- 11-b Evaluate the noise impacts of a proposed project upon existing land uses in terms of the applicable Federal, State, and local codes, and the potential for adverse community response, based on a significant increase in existing noise levels.
- 11-c Encourage use of the following mitigation measures to minimize noise impacts of proposed development projects:
 - 1) Site planning. Proper site planning is the first mitigation measure that should be investigated to reduce noise impacts. By taking advantage of the natural shape and terrain of a site, it often is possible to arrange the buildings and other uses in a

manner that will reduce and possibly eliminate noise impact. Specific site planning techniques include:

- a) Increasing the distance between the noise source and the receiver;
 - b) Placing non-noise-sensitive land uses such as parking lots, maintenance facilities, and utility areas between the source and the receiver;
 - c) Using non-noise-sensitive structures such as garages to shield noise-sensitive areas; and
 - d) Orienting buildings to shield outdoor spaces from a noise source.
- 2) Architectural layout of buildings. In many cases, noise reduction can be attained by careful layout of noise-sensitive spaces. Bedrooms, for example, should be placed away from freeways. Quiet outdoor spaces can be provided next to a noisy highway by creating a U-shaped development which faces away from the highway.
- 3) Noise Barriers: Noise barriers or walls are commonly used to reduce noise levels from ground transportation noise sources and industrial sources. While serving a dual purpose in that they can reduce noise level both outdoors and indoors, to be effective, a barrier must interrupt the line of sight between the noise source and the receiver. A barrier should provide at least 5 dB of noise reduction to achieve a noticeable change in noise levels.
- 4) Construction modifications: If site planning, architectural layout, noise barriers, or a combination of these measures does not achieve the required noise reduction, then construction modification to walls, roofs, ceilings, doors, windows, and other penetrations may be necessary.

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) GUIDELINES

- 11-d Amend the County CEQA Guidelines to define projects that have the potential to increase long-term noise levels above the levels specified in the policy section of this Plan as generating a significant impact on the environment.

- 11-e Noise mitigation features shall be incorporated into the design and construction of new projects or be required as conditions of project approval.

ZONING AND OTHER ORDINANCE AMENDMENTS

- 11-f Adopt a noise ordinance as the method to regulate noise from sources other than transportation sources. The noise ordinance should include specific noise level limits for stationary sources (i.e., projects). These noise level limits should take into account the type of adjacent land use (i.e., residential, commercial, or industrial). The State of California Office of Noise Control has published a Model Community Noise Ordinance.

OTHER PROGRAMS

- 11-g Coordinate efforts among the County, the cities, BART, the State government, and other agencies to develop a multi-phased action program to mitigate noise impacts.
- 11-h Prepare and adopt a noise abatement program that is consistent with State and federal guidelines, legally valid, and cost-effective.

1. James Gallagher, Occupational Health Department, Contra Costa County, Personal Communication, July 30, 1990.

12. GLOSSARY AND ABBREVIATIONS

TABLE OF CONTENTS

	<u>Page</u>
12.1 GLOSSARY	12-1
12.2 ABBREVIATIONS	12-9

12. GLOSSARY AND ABBREVIATIONS

12.1 GLOSSARY

ACTIVE FAULT: A fault that has moved recently and which is likely to move again. For planning purposes, an "active fault" is usually defined as one that shows movement within the last 11,000 years and can be expected to move within the next 100 years.

A-WEIGHTED SOUND LEVEL (dBA): The sound level measured on an instrument containing an "A" Filter, which electronically simulates the frequency response of the human ear under an average intensity of sound.

ADVERSE: A term used to describe unfavorable, harmful, or detrimental environmental condition changes.

AMBIENT NOISE: The background noise associated with a given environment, being usually a composite of sounds from many sources near and far.

AQUIFER: A natural underground formation that is saturated with water, and from which water can be withdrawn.

AREA EMPLOYMENT: The number of jobs provided in one area, including self-employment jobs. Such jobs can be filled by residents of the subject area or persons commuting from another area of residence.

ASSESSMENT: Determination of the nature, amount, importance, or value of an environmental condition change.

ASSIGNABLE SQUARE FEET (ASF): A physical planning term referring to the amount of floor space in a building that is usable by programs. ASF does not include hallways, bathrooms, or floor space used by heating, ventilating, and air conditioning equipment.

AVERAGE DAILY TRAFFIC: The number of vehicles passing a given point on a road going in a given direction during a 24-hour period.

BACKGROUND GROWTH: Anticipated residential growth within the region under study independent of project-related growth.

BACKGROUND NOISE: See Ambient Noise.

BASELINE: The existing environmental condition plus Category 1 - Approved Development in the absence of project development.

BASE YEAR: For the purpose of this DEIR, base year is 1985.

CLAYPAN: A layer of fine grained-soil with very low permeability.

CLEAN FILL: Dirt or similar material used to cover solid wastes at a landfill activity.

COMMUNITY NOISE EQUIVALENT LEVEL (CNEL): The CNEL represents the average continuous noise level over a 24-hour period, with special weighting factors applied to noise events during the night time (10 p.m. to 7 a.m.), the evening (7 p.m. to 10 p.m.), and the daytime (7 a.m. to 7 p.m.).

COMPACTED VOLUME: The volume of solid wastes after compaction by collection trucks, as opposed to the loose, or uncompacted volume of wastes in dumpsters.

CRITERION: A standard, rule, or test by which a judgment can be formed.

CRITICAL FACILITY: Includes facilities housing or serving many people or otherwise posing unusual hazards in case of damage from or malfunction during an earthquake, such as hospitals, fire, police, and emergency service facilities, utility "lifeline" facilities, such as water, electricity, and gas supply, sewage disposal, and communications and transportation facilities.

CUMULATIVE IMPACT: Environmental impact of the project under study plus background growth.

DAY-NIGHT AVERAGE SOUND LEVEL (L_{dn}): The A-weighted average sound level in decibels during a 24-hour period with a 10 dB weighting applied to nighttime sound levels (10 p.m. to 7 a.m.). This exposure method is similar to the CNEL, but deletes the evening time period (7 p.m. to 10 p.m.) as a separate factor.

DECIBEL: A unit for expressing the relative intensity (loudness) of sounds. The decibel is the logarithm of the ratio of the intensity of a given sound to the faintest sound discernible by the human ear.

DEGRADATION: The reduction of environmental quality in an area through a lessening of diversity, the creation of growth anomalies, or the supplanting of native species by non-native plant and animal species.

DESIGN CAPACITY: The capacity at which a water distribution pipe, pump or reservoir, or a wastewater pipe or treatment plant is intended to operate.

DROUGHT-TOLERANT: An adjective used to describe any plant species that is capable of surviving with little or no water for extended periods.

DWELLING UNIT: One or more habitable rooms that can be occupied by one family with facilities for living, sleeping, cooking, and dining.

ENDANGERED: A species or subspecies of plant or animal whose prospects of survival and reproduction are in immediate jeopardy.

EROSION: Process by which material is removed from the earth's surface (including: weathering, dissolution, abrasion, and transportation).

ESTIMATE: A statement regarding future conditions based on non-mathematical analysis.

FAULT: A fracture in the earth's crust forming a boundary between rock masses that have shifted.

FORECAST: A statement regarding future conditions based on non-linear numerical assumptions.

FOOTPRINT: The ground area covered by a building.

GRADING: Alteration of existing slope and shape of the ground surface.

GRAVITY-FED: An adjective used to describe a water distribution or wastewater collection system that relies on gravity to move the fluids through pipelines.

GREYWATER: Wastewater that does not carry human or animal wastes, which may be used for irrigation purposes.

GROSS SQUARE FEET (GSF): Total space within a building.

GROUND FAILURE: Mudslide, landslide, liquefaction, or the seismic compaction of soils.

GROUNDWATER: Water beneath the surface of the earth.

HALOGENATED: Substance treated or combined with fluorine, chlorine, bromine, iodine, or astatine.

HAZARDOUS BUILDING: A building that may be hazardous to life in the event of an earthquake because it:

- (1) Was constructed prior to the adoption and enforcement of local codes requiring earthquake resistant design of buildings;
- (2) Is constructed of unreinforced masonry; or,
- (3) Exhibits any one of the following characteristics:
 - o Exterior parapets and ornamentation that may fall on passers-by;
 - o Exterior walls that are not anchored to the floors, roof, or foundation;
 - o Sheeting on roofs or floors incapable of withstanding lateral loads;
 - o Large openings in walls that may cause damage from torsional forces; or,
 - o Lack of an effective system to resist lateral forces.

HAZARDOUS MATERIAL: A material or form of energy that could cause injury or illness to persons, livestock, or the natural environment.

HERBICIDE: A substance used to destroy plants, especially weeds.

HOUSEHOLD: A group of persons living together who may or may not be related.

IGNEOUS ROCK: Rock formed by the solidification of molten or partially molten material from within the earth.

IMPERVIOUS SURFACE: Ground surface that cannot be penetrated by water. Includes paved and compacted surfaces, as well as those covered by buildings.

INACTIVE FAULT: A fault which shows no evidence of movement in recent geologic time and no potential for movement in the relatively near future.

IN-PLACE VOLUME: The volume of solid wastes at the densities achieved in a landfill, using earthmoving equipment.

INFILTRATION: The introduction of underground water, such as groundwater, into wastewater collection systems. Infiltration results in increased wastewater flow levels.

INFLOW: Surface water, such as rainfall runoff, that enters a wastewater collection system through manhole covers and joints or cracks in pipes. Inflow results in increased wastewater flow levels.

INFRASTRUCTURE: Permanent utility installations, including roads, water supply lines, sewage collection pipes, and power and communications lines.

INTERSECTION CAPACITY: The maximum number of vehicles that has a reasonable expectation of passing through an intersection in one direction during a given time period under prevailing roadway and traffic conditions.

INVERSION LAYER: A state in which the air temperature increases with increasing altitude, holding surface air down along with its pollutants.

ISSUE: A point or item of discussion focusing on environmental questions germane to a proposed action, used as the structuring unit in this environmental impact assessment.

KILOWATT: A measure of the rate of electrical flow equal to one thousand watts.

KILOWATT-HOUR: A measure of a quantity of electrical consumption equal to the power of one kilowatt acting for one hour.

LABOR FORCE: Residents of working age who are employed or seeking employment.

LANDFILLING: A procedure for the disposal of solid or hazardous wastes. The wastes are placed in a designated dumping site and usually covered with dirt or other fill materials.

LANDSLIDE: Any downslope mass movement of rock or soil, including rock falls, earth flows, and landslides in the technical sense (a soil mass that retains its essential internal arrangement and becomes disjointed from its subsurface interface).

LEVEL OF SERVICE: A measure of the mobility characteristics of an intersection, as determined by vehicle delay and a secondary factor, volume-to-capacity ratio. A volume-to-capacity ratio of less than 0.600 corresponds to level of service "A," while a ratio of 1.00 and above corresponds to level of service "F."

LIQUEFACTION: A geologic phenomenon in which surface and near-surface materials (soils, alluvium, etc.) behave like a liquid during seismic shaking.

MEAN: Sum of a group of numerical values divided by the number of values - also known as "average."

MEDIAN: The middle value in a set of figures arranged in order of magnitude.

METAMORPHIC ROCK: A geologic formation that is transformed from sedimentary depositions by contact with heat from intrusion of molten material.

MAXIMUM CREDIBLE EARTHQUAKE: The largest Richter magnitude (M) seismic event that appears to be reasonably capable of occurring under the conditions of the presently known geological framework. In the Bay Area, M8.3 is the maximum credible earthquake for the San Andreas fault, M7.5 for the Hayward and Calaveras faults, and M7.0 for the Rodgers Creek and Green Valley-Concord faults.

MIDDEN: A refuse heap, especially of a prehistoric habitation.

MITIGATION MEASURE: Action taken to reduce or eliminate environmental impacts.

MOBILE SOURCES: A source of air pollution that is related to transportation vehicles, such as automobiles or buses.

MODAL SPLIT: The distribution of commuters among various transportation modes (single-occupant vehicles, carpools, public transit, etc.).

NOISE: Annoying, harmful, or unwanted sound.

ONCOGENIC: Tending to cause the formation of tumors.

OPEN LANDSCAPE: A landscape with vegetation no taller than eye level - this generally refers to meadows and low brush.

OVERFLOW: A condition where effluent completely fills a wastewater line, rises into a manhole shaft and spills onto the surrounding street or ground surface. Line capacity is exceeded.

PARKLAND LANDSCAPE: A landscape in which signs of active management are apparent. Little or no understory vegetation or dead wood is found on the forest floor. Lower tree limbs may be trimmed. May include mowing of non-irrigated grassland.

PASSIVE SOLAR DESIGN: The use of non-mechanical architectural features and landscaping to control solar heat gain.

PEAK DRY-WEATHER FLOW: Wastewater flows consisting of sanitary flow and groundwater infiltration. The period over which dry weather flows are measured is June through September.

PEAK HOUR: In reference to public services infrastructure or transportation systems, the hour during which the greatest use occurs.

PEAK WET-WEATHER FLOW: Total wastewater flow, consisting of sanitary flow, inflow, and infiltration.

PERCENT SLOPE: A common way of expressing the slope of terrain, which is derived by dividing the change in elevation by the horizontal distance traversed. A 45-degree slope can thus be expressed as a 100-percent slope.

PERCOLATION: Downward movement of groundwater through soil and bedrock.

PERFORMANCE STANDARDS: An adopted set of criteria by which the operation of a system can be rated.

POTENTIALLY ACTIVE FAULT: (1) A fault that last moved within the Quaternary Period before the Holocene Epoch (the last 2,000,000 to 11,000 years); (2) a fault which, because it is judged to be capable of ground rupture or shaking, poses an unacceptable risk for a proposed structure.

PROJECTION: A statement regarding future conditions based on linear extrapolations of past and present conditions.

QUATERNARY: The period of geologic time in the Cenozoic era from the Tertiary through the present.

RADIOISOTOPE: A natural or artificially created radioactive form of a chemical element. Typically used in medical therapy and biological research.

RARE: A condition in which a species or subspecies, although not currently threatened with extinction, exists in such small numbers throughout its range that it may be endangered if the quality of its environment worsens.

REACTIVE ORGANIC GASES: Classes of hydrocarbons (olefins, substituted aromatics, and aldehydes) that are likely to react with ozone and nitrogen dioxide in the atmosphere to form photochemical smog.

RECYCLING: Any of a variety of processes whereby waste is separated for reuse or reprocessing into a useful form.

REGIONAL EMPLOYMENT: The number of jobs provided in a region. This differs from the number of employed residents in a region to the degree that residents commute to jobs out of the region and to the degree that non-residents fill jobs provided in the region.

RETROFIT: Replacement of existing fixtures with new or modified fixtures to improve efficiency.

RICHTER SCALE: A logarithmic scale developed in 1935/36 by Dr. Charles F. Richter and Dr. Benno Gutenberg to measure earthquake magnitude by the amount of energy released, as opposed to earthquake intensity as determined by local effects on people, structures, and earth materials.

RIGHT LATERAL: The movement of one side of a fault relative to the other is toward the right. The western side of the Hayward fault is moving north while the eastern side is moving south.

RIPRAP: A loose assemblage of broken rock or concrete, often used to prevent erosion.

SAFE YIELD: In reference to water supply, the combined yield of all available water sources during the worst drought year on record.

SANITARY FLOW: That portion of wastewater flow that is generated by domestic, industrial, and commercial customers, as distinct from inflow and infiltration.

SECONDARY EMPLOYMENT: Combined indirect and induced employment.

SEDIMENTARY ROCK: Rock formed from sediment or transported rock fragments.

SEDIMENTATION: Process by which material suspended in water is deposited in a body of water.

SEICHE: An earthquake-induced wave in a lake, reservoir, or harbor.

SODIUM-VAPOR LIGHTS: Electric lamps containing a small amount of sodium and neon gases. These lamps are more efficient than conventional street lighting.

SPOILS: Rock and soil removed during excavation.

STATIONARY SOURCE: A source of air pollution that is not mobile, such as a heating plant or an exhaust stack from a laboratory.

SUBSIDENCE: The gradual, local settling or sinking of the earth's surface with little or no horizontal motion. (Subsidence is usually the result of gas, oil, or water extraction, hydrocompaction, or peat oxidation, and not the result of a landslide or slope failure.)

SURCHARGE: A condition where effluent completely fills a wastewater line and rises into a manhole shaft, but does not overflow onto the surrounding street or ground surface. Line capacity is exceeded.

SURFACE RUPTURE: A break in the ground's surface and associated deformation resulting from the movement of a fault.

SURFACE WATER: Water in lakes, streams or rivers, as distinct from subsurface groundwater.

THERM: The amount of energy necessary to raise 100,000 pounds of water one degree Fahrenheit.

TOTAL SUSPENDED PARTICULATE MATTER: A particle of solid or liquid matter, including soot, dust, aerosols, fumes, and mist.

TRANSITION LANDSCAPE: A landscape that forms the border between a closed landscape and an open landscape.

TRANSPORTATION SYSTEMS MANAGEMENT: A program for encouraging alternatives to private automobile use, such as increased reliance on public transit, carpooling, and bicycles.

TRUNK LINE: A primary sewage collection pipeline that collects wastewater from smaller feeder lines.

TSUNAMI: A wave, commonly called a tidal wave, caused by an underwater seismic disturbance, such as sudden faulting, landslide, or volcanic activity.

UNEMPLOYMENT RATE: The number of persons of working age who are actually seeking employment, divided by the number of persons in the labor force.

UNINCORPORATED AREA: Areas that are not within the bounds of an incorporated city.

VACANCY RATE: The number of habitable housing units that are vacant for rent or sale divided by the total number of habitable housing units.

VEGETATION CLEARING: The removal of all vegetation in an area.

VEGETATION COMMUNITY: A group of plant species commonly occurring together in roughly similar proportions.

VIEWSHED: The area that can be seen from a specified location.

VOLUME-TO-CAPACITY RATIO: In reference to public services or transportation, ratio of peak hour use to capacity.

WARRANTED: A condition under which a given action would be justified based on the relevant criteria.

WATERCOURSE: Path followed by surface water flow; shown on U.S. Geological Service maps as solid or dashed blue lines.

WATERSHED: The area of a landscape from which surface runoff flows to a given point.

WILDLAND FIRES: Fires occurring in a nonurban, natural area which contains uncultivated lands, timber, range, watershed, brush, or grasslands.

WILDLAND LANDSCAPE: A landscape in which no signs of active management are apparent. Understory vegetation is noticeable and dead and decaying wood is found on the forest floor.

WILDLIFE CORRIDORS: A natural corridor, such as an undeveloped ravine, that is frequently used by wildlife to travel from one area to another.

YIELD: In relation to surface water supply facilities, the "safe yield" is the amount of water delivered by that facility in the worst drought on record. In relation to subsurface water obtainable by wells, the yield is the average annual amount of water delivered by that well.

12.2 ABBREVIATIONS

ABAG: Association of Bay Area Governments

AC-FT/YR: Acre-feet (of water) per year

ADT: Average Daily Traffic

ADWF: Average Dry Weather Flow

AFDC: Assistance to Families with Dependent Children

ASF: Assignable Square Feet (or "Footage")

BAAQMD: Bay Area Air Quality Management District

BIASP: Bethel Island Area Specific Plan

Caltrans: California Department of Transportation

CARB: California Air Resources Board

CCCWD: Contra Costa County Water District

CDBG: Contra Costa County Development Block Grant

CEQA: California Environmental Quality Act

CFP: California Fully Protected Species as designated by California Fish and Game Code

CFR: Code of Federal Regulations

CHAP: California State Comprehensive Homeless Assistance Program

CIAP: Comprehensive Improvement Assistance Program

CNEL: Community Noise Equivalent Level

CNPS: California Native Plant Society

dB: Decibel

DEIR: Draft Environmental Impact Report

DGP: Draft General Plan of Contra Costa County

DHS: California Department of Health Services

DRC: Design Review Committee

EBMUD: East Bay Municipal Utilities District

EDD: California State Employment Development Department

EIR: Environmental Impact Report -- A public document prepared under CEQA used by a governmental agency to analyze the significant environmental effects of a proposed project, to identify alternatives, and to disclose possible ways to reduce or avoid possible environmental damage.

EPA: U.S. Environmental Protection Agency

FAR: Floor Area Ratio

FEMA: Federal Emergency Management Agency

FHA: Federal Housing Administration

FmHa: Farmers Home Administration

GPD: Gallons per Day

GPM: Gallons per Minute

GSF: Gross Square Feet

HCD: California Department of Housing and Community Development

HUD: U.S. Department of Housing and Urban Development

I/I: Inflow and Infiltration

IOC: Internal Operations Committee, Contra Costa County

kW: Kilowatt

kWh: Kilowatt-Hour

LAFCo: Local Agency Formation Commission

L_{dn} : Day-night Average Sound Levels

LIHTC: Low Income Housing Tax Credits

MCC: Mortgage Credit Certificates

MGD: Million Gallons per Day

MOU: Memorandum of Understanding

MRB: Contra Costa Mortgage Revenue Bond Program

NAAQS: National Ambient Air Quality Standards

NEPA: National Environmental Policy Act

NOP: Notice of Preparation, as required by CEQA

NO_x : Oxides of Nitrogen

ORU: Organized Research Unit

OSHA: Occupational Safety and Health Administration (Federal)

PG&E: Pacific Gas and Electric Company

PLAM: Price Level Adjusted Mortgage

ROG: Reactive Organic Gases

RRP: Federal Rental Rehabilitation Program

RWQCB: Regional Water Quality Control Board

SCS: Soil Conservation Service

SHURP: Special Housing and Urban Renewal Program

SRO: Single Resident Occupancy Hotel

SSC: Species of Special Concern as designated by California Department of Fish and Game

RCEB: Regional Center of the East Bay for Persons with Developmental Disabilities

TAC: Toxic Air Contaminants

THC: Total Hydrocarbons

TKN: Total Kjeldahl Nitrogen

TOG: Total Organic Gases

TSP: Total Suspended Particulate Matter

TSM: Transportation Systems Management

UCL: Urban Limit Line

ULL: Urban Limit Line

USGS: U.S. Geologic Survey

V/C: Volume-to-Capacity Ratio

U.C. BERKELEY LIBRARIES



C124902157

